INPUT

VENDOR ANALYSIS PROGRAM

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

May 1998

Arthur Andersen-
Baan Services Providers

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The following profile outlines the services and support offered by Arthur Andersen for Baan Services.

Company Background

Arthur Andersen's business consulting practice assists leading organizations in improving their decision making, business operations and organizational capability through a broad range of process improvement, performance enhancement and middle market technology implementation services.

Arthur Andersen is a global multi-disciplinary professional services firm that helps its clients improve their business performance through assurance and business advisory services, business consulting, economic and financial consulting, and tax and business advisory services. With more than $5 billion in revenues, Arthur Andersen serves clients in 363 locations in 78 countries. Arthur Andersen, founded in 1913, is a partnership.

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Baan Activities

Arthur Andersen works with middle market companies to develop strategies to improve their business processes and provide support for the implementation of Baan software. Using proprietary tools such as the Arthur Andersen KnowledgeSpace^{SM}, the Global Best Practices^{SM} knowledge base, and *Vital Signs* performance management concepts, executives can measure their processes against best practice companies. Baan's software complements Arthur Andersen's expertise that helps manufacturing companies focus on business risks, issues and solutions. Arthur Andersen launched its middle market manufacturing practice to address a growing need for top-notch consulting expertise and has become one of the largest implementers of technology-based solutions in the middle market. The Arthur Andersen/Baan alliance is part of Arthur Ander-sen's continuing effort to help mid-size manufacturing companies deploy technology rapidly and effectively to compete in today's global market. Additionally, Arthur Andersen is one of the largest implementers of Hyperion Software, an analytic application that complements Baan's ERP solutions.

Manufacturing companies want to simplify the ERP evaluation process and sort out the complexity normally associated with business consulting and technology services. Arthur Andersen combines their unique perspective of middle market manufacturers with Baan's technology to do something different. In addition to helping companies use technology to support business process improvements, Arthur Andersen also works with clients to achieve return on investment targets. These may include strategic human resource and organization change, corporate cost and benefit forecasting, continuous improvement programs, performance management definition and organizational alignment.

Arthur Andersen has been working with Baan in North America since 1995, and is a member of the Baan World User organization. In addition, one of their professionals serves as the Trustee for the Baan World User's organization and another is a member of Baan's Education Partner Advisory Board for Consulting Alliance Partners.

In the 1997 fiscal year, Arthur Andersen had worldwide revenues of $5.2 billion. Total 1997 North American revenues were $2.4 billion, with $10 million coming from Baan services.

Employees

Worldwide, Arthur Andersen has more than 53,000 employees, of which 170 are dedicated to their Baan practice. In North America, there are over 21,000 employees, with 110 supporting Arthur Andersen's Baan practice.

Exhibit 1 identifies six primary Baan skill categories, and notes Arthur Andersen's estimated growth in their global Baan staff in these areas over the next twelve months.

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Exhibit 1

Arthur Andersen Baan Staffing

Type of Staff	Current Number	Growth % 12 Months
Business Consultants	50	100%
Project Directors	27	100%
Project Managers	93	100%
Application Consultants		
Technical Consultants		
Post-Implementation Support Personnel		
Other		
Total	170	100%

Source: Arthur Andersen

Implementation Approaches

In order to improve implementation quality and shorten timescales, Arthur Andersen has developed the Arthur Andersen Baan Solution Set. The Solution Set is a collection of best practice workplans, deliverables and templates to help achieve a rapid Baan implementation. They have also developed the Arthur Andersen BAAN Project Tracker, a project management toolkit. The Project Tracker toolkit is used by the entire project team as a vehicle to track project issues, action steps, process design activities, vendor communications, modifications, system testing activities and training schedules.

Ongoing Support Offerings

Arthur Andersen project teams provide support as needed to help their clients meet their strategic system objectives.

Vertical Market Competencies

Arthur Andersen focuses on the automotive, industrial products, and electronics subsectors of the vertical markets noted in Exhibit 2. The table also indicates the percentage of Arthur Andersen revenues and projects represented by each vertical market.

Exhibit 3 details Arthur Andersen's participation in eight broad market categories, in terms of the level of consulting or implementation involvement (e.g., consulting with the client, who will then perform the implementation, or implementing the Baan system for the client).

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Exhibit 2

Vertical Market Expertise

Vertical Market	Sub-segment	% of Revenues	% of Projects
Discrete Manufacturing	• Automotive • Aerospace • Electronic • Mechanical/ Engineering	62%	57%
Process Manufacturing	• Food & Beverage • Pharmaceuticals • Chemicals, Oil & Gas	25%	19%
Telecommunications, Utilities & Media		13%	24%

Source: Arthur Andersen

Exhibit 3

Level of Vertical Market Involvement, by Activity

Vertical Market	Consulting	Implementation
Aerospace & Defense	Medium	Medium
Automotive	Medium	Medium
Hybrid	High	High
Project Industries	High	High
Electronics	High	High
General Manufacturing	High	High

Source: Arthur Andersen

Strategic Positioning

Arthur Andersen believes that there are many systems consultants, but few who understand in detail how a client's business operates, few who look at how specific work is performed, and few with a global network of teams experienced in both Baan implementation and business process improvement.

Arthur Andersen can help a client achieve the benefits they are looking for while minimizing the risks. Arthur Andersen offers a complete package of advantages:

- Rapid, high-impact implementations for middle-market companies focused on delivering strategic solutions.
- A commitment to managing business risk through use of their BAAN Rapid Implementation Tools
- Enhanced benefits from client investments through exploiting software features in the context of best practices

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- An integrated methodology built on the recognition that strategy, people, processes and technology must all be aligned and balanced for a successful Baan implementation
- The ability to cut through complexity to deploy the appropriate technology in the most flexible, straightforward, rapid and effective manner
- A focus on business process improvement and minimal software modifications—they are concerned not only with technology, but with the client's business as a whole
- Experience in working with top management to set targets for costs, impacts and business improvement results, and then using Baan's technology to achieve them
- A shared concern about how a company will perform in the future—after Arthur Andersen leaves; They use their strategic know-how to enable change and transfer knowledge
- Coaching skills to teach client personnel how to perform the tasks associated with implementation; Client benefits include better business analysts and future company leaders
- A shared global pool of Baan experience, industry knowledge and best practices so the client's team is supported by professionals worldwide.

Arthur Andersen defines its role as being there to bring worldwide best practices, specific technical knowledge and business acumen to bear on the client's behalf—not to take over implementation.

Plans for the Future

Arthur Andersen is focused on building Baan competency and developing Baan Solution Sets to facilitate the implementation process

Selected Customer Projects

The projects identified in Exhibit 4 are a sample of Arthur Andersen-supported Baan installations in North America. In addition to the projects noted, Arthur Andersen has completed more than 25 Baan projects.

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Exhibit 4

Arthur Andersen References

Baan Customer	Industry (Vertical Market or Subsegment	Project Details
Manufacturer of Wood Office Furniture	Discrete Manufacturing	Arthur Andersen was engaged to assist the client in finding and implementing a system that would enable the company to schedule and execute orders more quickly. Their team assisted with software selection, Business Process Simulation (BPS), Baan implementation and post-conversion support.
High-Tech Manufacturer	Discrete Manufacturing	Arthur Andersen was engaged to assist in software selection, business case development, and implementation. The objective was to support the strategic decision making process within the company by integrating operational and financial information and quantifying key business processes. The project included a Business Process Simulation (BPS) and implementation of the BAAN ERP system.
Trade Show Display Manufacturer and Event Manager	Discrete Manufacturing	This project included software selection followed by a Business Process Simulation and implementation of the BAAN ERP system resulting in an integrated purchasing and inventory system. A project projection system was installed to significantly improved the company's ability to manage projects.
Automotive Supplier	Discrete Manufacturing	Arthur Andersen was engaged to develop a systems strategy, conduct software selection, assist in a Business Process Simulation and implementation of BAAN ERP to enable and support this growing international organization while relieving Year 2000 pressures.
Circuit Board Manufacturer	Discrete Manufacturing	Arthur Andersen was engaged to assist in the implementation of BAAN ERP. Baan was implemented to improve the production planning and scheduling processes as well as improve the accuracy of product costing.

Source: Arthur Andersen

Reference Project

A fast growing High Tech Manufacturer whose operational and systems infrastructure had not kept pace with customer pressures for reduced lead time and lower cost, engaged Arthur Andersen to assist with software selection and business case development which would support the strategic decision making process by integrating operational and financial information and quantifying key business processes.

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The Arthur Andersen team worked closely with senior management to develop the strategy for reengineering the business. In addition to the Business Process Simulation, the High Tech Manufacturer has undertaken four strategic initiatives to support the Baan implementation and to achieve return on investment targets. The initiatives are

- Strategic human resource and organization change
- Corporate cost/benefit forecasting for the year 2000
- Continuous improvement
- Performance management definition and organizational alignment

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

August 1996

Arthur D. Little, Inc.

President & CEO: Charles R. LaMantia
Acorn Park,
Cambridge, MA 02140-2390
Phone: (617) 498-5000
Fax: (617) 492-2337
Internet: http://www.adlittle.com

Status:	Private
Employees:	3,030 (12/95)
Consultants:	1,795 (12/95)
Revenue:	$514,000,000
Fiscal Year End:	12/31/95

Key Points

- Founded in 1886, Arthur D. Little, the world's first consulting firm, provides management and technology consulting.
- In 1995, Arthur D. Little acquired Innovation Associates (IA), a consulting company that assists companies to become learning organizations.
- During 1995, Arthur D. Little continued its international expansion, opening twelve offices, including two in the U.S., and ten internationally.
- During 1995, the firm acquired Innovation Associates, Inc., a leading training and consulting firm with expertise in the organizational learning field.
- In February 1995, Arthur D. Little acquired the Joyce Institute, a leading ergonomics consulting firm.
- In a move to grow its presence in the Indian sub-continent, Arthur D. Little entered into an agreement with Industrial Credit and Investment Corporation of India (ICICI), based in Bombay, India.

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- In January 1995, the firm entered into an alliance with Seker Management, based in Israel, to jointly market and deliver services to clients in Israel.

Company Description

Arthur D. Little is an employee-owned international management and technology consulting firm providing consulting in three areas—management consulting; environmental, health and safety consulting; and technology and product development.

The firm was founded by Dr. Arthur Dehon Little, a Massachusetts Institute of Technology professor. Arthur D. Little operated as a public firm until June 1988, when shareholders voted to implement the Employee Stock Ownership Plan (ESOP) and the firm became a privately held corporation.

Organization and Structure

Headquartered in Cambridge (MA), Arthur D. Little has 52 offices in 30 countries.

The firm has U.S. offices in Arlington (VA); Cambridge (MA); Chicago (IL); Charleston (SC); Washington D.C.; Santa Barbara, San Francisco, Palo Alto, and Los Angeles (CA); Houston (TX); Philadelphia (PA); Seattle (WA); and New York (NY).

The firm's international offices are located in Abu Dhabi, Berlin, Bogota, Bombay, Brussels, Buenos Aires, Cambridge (U.K.), Caracas, Copenhagen, Dusseldorf, Gothenburg, Harrogate, Hong Kong, Jeddah, Kuala Lumpur, Lisbon, London, Madrid, Mexico City, Milan, Monterey, Moscow, Munich, Paris, Prague, Riyadh, Rotterdam, Sao Paulo, Seoul, Singapore, Stockholm, Sydney, Tokyo, Toronto, Vienna, Wiesbaden, and Zurich.

Arthur D. Little's key management is summarized in Exhibit A on the following page.

Arthur D. Little has six subsidiaries as follows:

- Arthur D. Little Program Systems Management Company (PSMC), based in Cambridge (MA), manages and staffs major projects for industrial firms and government.
- Arthur D. Little Management Education Institute, Inc. (MEI), based in Cambridge (MA), is the professional education component of Arthur D. Little, Inc.
- Arthur D. Little Enterprises, Inc., based in Cambridge (MA), manages the commercialization of proprietary technology and develops equity opportunities for the parent company.
- Cambridge Consultants Ltd., Cambridge (England), provides technology consulting services, including research, development and deployment.
- Innovation Associates, Inc., acquired by Arthur D. Little in 1995, focuses on areas of leadership development, systems thinking, implementing organizational learning systems, developing high-performance teams, and leading change implementation.
- The Joyce Institute, acquired in February 1995, is a ergonomics consulting firm.

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Exhibit A
Arthur D. Little, Inc.
Key Executives

Name	Title
Charles LaMantia	President & CEO
J. Paul Auton	Senior V.P. Chairman and CEO, Cambridge Consultants Ltd.
Roberto E. Batres	Senior V.P. and Directorate Managing Director Latin America Management Consulting
Alan J. Friedman	Senior V.P. and Director, Human Resources
Bruce Grant	Senior V.P. and Directorate Managing Director North America Management Consulting
J. Ladd Greeno	Senior V.P. and Directorate Managing Director Environmental, Health, and Safety Consulting
Michael J. McGaughey	Senior V.P. and Directorate Managing Director Asia Pacific Management Consulting
Ashok S. Kalelkar	Senior Vice President
Maurice Olivier	Senior V.P. and Directorate Managing Director Europe Management Consulting
Albert Sherman	Senior V.P. and Directorate Managing Director Technology and Product Development
W. Tom Sommerlatte	Senior V.P., Management Consulting
Allan Steinmetz	Senior V.P. and Corporate Director, Marketing and Communications
Jeffrey W. Traenkle	Senior V.P. and Chief Financial Officer
Alfred E. Wechsler	Senior V.P. and Chief Professional Officer

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Company Strategy

In 1994, Arthur D. Little, with half of its revenues coming from outside the U.S., successfully transitioned into an international firm. With respect to its expansion strategy, the firm is rapidly pursuing both a global, as well as regional, expansion program.

The firm is venturing into emerging markets such as India, Latin America, and Poland through alliances and new offices.

Financials

Arthur D. Little's 1995 revenue was $514 million, a 19% increase over 1994.

A three-year revenue summary follows:

Arthur D. Little, Inc.
Three-Year Revenue Summary
($ Millions)

	Fiscal Year		
Item	1995	1994	1993
Revenue	$514	$433	$385
• Percent change from previous year	19%	13%	5%

Revenue Analysis by Product/Service

In 1995, INPUT estimates that approximately 12% of Arthur D. Little's worldwide revenue was derived from professional consulting services in the information services field.

Arthur D. Little derived approximately 72% of its revenue from management consulting; 14% from technology and product development; 12% from environmental, health, and safety consulting, and 2% from other areas.

Market Financials

Arthur D. Little's clients include more than 75% of the Fortune 100 companies (or their global equivalents).

The firm's global knowledge of best practices is built on guiding change in major industries, including—automotive; chemicals; consumer goods; energy; engineering and manufacturing; financial; health care; metals and resources; pharmaceuticals and medical products; postal organizations; public administrations; telecommunications, information and electronics; transportation; travel, tourism and hospitality; and utilities.

Arthur D. Little's typical business volume includes performing services for clients in more than 60 countries worldwide. More than 85% of the firm's business comes from repeat clients. Annually, the firm works on approximately 2,500 assignments.

Geographic Markets

INPUT estimates that approximately 40% of Arthur D. Little's total 1995 revenue was derived from the U.S. and the remaining 60% was from Europe and other international sources.

Employees

As of December 1995, Arthur D. Little had 3,039 employees. Of these, 1,795 were consultants.

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Acquisitions

During 1995, Arthur D. Little acquired Innovation Associates, a leading training and consulting firm specializing in organizational learning.

- The company was co-founded by Charles Kiefer, a pioneer in the development of organizational learning, and Dr. Peter M. Senge, author and Director of the Organizational Learning Center at the Massachusetts Institute of Technology's Sloan School of Management.

- Innovation Associates' clients have included AT&T, Federal Express, General Foods, IBM, Motorola, Xerox, Intel, and Monsanto, as well as other Fortune 1000, government, and health care industry organizations.

In February 1995, Arthur D. Little acquired The Joyce Institute, a leading ergonomics consulting firm headquartered in Seattle (WA) and headed by founder Marilyn Joyce.

- The Joyce Institute rovides a range of ergonomics consulting services in office, industrial, and laboratory environments, as well as providing expertise in product design.

- The company helps companies identify causes of injuries and shows them how to apply ergonomic criteria to modify existing work areas.

Key Products and Services

Arthur D. Little offers services through three main lines of business—management consulting; environmental, health, and safety consulting; and technology and product development.

Management Consulting

Management consulting services are offered in eight core areas as follows:

- Strategy
- Customer management
- Information management
- Organization management
- Supply chain management
- Technology and innovation management
- Corporate finance management
- Manufacturing management

Environmental, Health and Safety Consulting

This group integrates technological expertise with management vision to provide services that include:

- Advanced chemical fingerprinting
- Environmental, health and safety auditing
- Environmental impact assessment
- Environmental strategy
- Ergonomics
- Industrial hygiene
- Management systems
- Natural resource damage assessment
- Occupational safety
- Pollution prevention
- Process safety
- Qualified risk assessment
- Radiation safety
- Remediation
- Risk management
- Safety management
- Site assessment
- Technology assessment
- Training
- Transportation safety

Technology and Product Development

This group is technology-focused and business-driven and offers services that include:

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- Product development
- Technology assessment
- Technology development
- R&D management

Clients

A sampling of Arthur D. Little's significant clients is shown in Exhibit B on the following page.

Marketing and Sales

Arthur D. Little has made strategic investments in its marketing process such as:

- Hiring a senior advertising and marketing strategist, Allan Steinmetz, to the post of Senior Vice President and Corporate Director of Marketing and Communications

- Recruiting other senior staff

- Retaining advertising and global public relations agencies

- Marketing through an integrated communications approach, including public relations, database marketing, advertising, and relationship building forums around the world

A key and consistent marketing approach for over 100 years is the codification and publication of management books.

Recent examples of Arthur D. Little's business management books include:

- *Product Juggernauts: How Companies Mobilize to Generate a Stream of Market Winners*

- *The Unwritten Rules of the Game*

- *Third Generation R&D*

Alliances

In seeking to meet and anticipate the needs of its worldwide clients, Arthur D. Little has formed a number of alliances as follows:

- In May 1995, Arthur D. Little formed an alliance with Seker Management of Israel to pursue joint business engagements in Israel, in areas that complement the firm's strategic competencies.

- Arthur D. Little has an agreement with ICICI, based in Bombay, India. The two firms will work together on some assignments, as well as be involved in joint marketing and business development. Arthur D. Little will focus on management restructuring, while ICICI will be involved in financial restructuring of Indian businesses.

Competition

Arthur D. Little's competitors include traditional management consulting firms, environmental consulting firms, and technology and product development firms.

The firm faces significant competition from major consulting firms, including McKinsey & Company, A.T. Kearney (EDS), Andersen Consulting, Coopers & Lybrand, Booz Allen & Hamilton, Gemini Consulting, CSC Consulting, Mercer Management Consulting, and Monitor.

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Exhibit B
Arthur D. Little, Inc.
Clients

AGIP
Allianz Worldwide
Allied Signal, Inc.
American Express
Amoco
Apple Computer, Inc.
AT&T Bell Laboratories
BankAmerica Corporation
Baxter International
Boeing
British Petroleum
CEMEX
Chevron
Chrysler Corporation
Citicorp
The Coca-Cola Company
Conagra
Coopers & Lybrand
Corning Incorporated
Daimler-Benz Group
Digital Equipment Corporation
The Dow Chemical Company
Du Pont
Ethicon Endo-Surgery
Exxon
Federal Express
Fiat Group
Frito-Lay, Inc.
Ford Motor Company
Gas Research Institute
General Electric Company
General Motors
The Gillette Company
Glaxo Holdings
Hewlett-Packard
Hitachi
Hong Kong Mass Transit Railway Corporation
IBM
Intuit, Inc.
Johnson & Johnson
LG Group
L.L. Bean, Inc.
Lockheed Martin
Marion Merrell Dow, Inc.
Matsushita Electric
Merck & Company, Inc.
Metropolitan Life Insurance
Mitsubishi
Mitsui & Company
Mobil
Monsanto
Motorola, Inc.
NASA
Nestle
Nippon Telephone & Telecommunications
Nissan Motor
Neutronics
Northern Telecom]
PepsiCo
Pfizer Pharmaceuticals
Philip Morris
Procter & Gamble Company
Prudential Insurance Company of America
Public Service of New Mexico
Roche Pharmaceuticals
Samsung Group
Sandia National Laboratories
Scott Aviation
Sears Roebuck
Royal Dutch/Shell Oil Group
Siemens Group
State Farm Group
Sumitomo
Texaco
Thomas cook Group
3M
Tokyo Electric Power
Toshiba
Toyota
Unilever
Union Carbide Corporation
United Kingdom Department of Transport
United Parcel Service
United States Department of Energy
Volkswagen Group
Volvo
Westinghouse
Whirlpool Corporation
Xerox Corporation
Yacimientos Petroliferos Fiscales (YPF)

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INPUT Assessment

Arthur D. Little feels its strengths include:

- An approach to building strong client involvement and a focus on team/client learning
- The expertise of its consultants in a diverse set of industries and technologies
- A strong client base
- A global focus
- The ability to organize global teams in many industries
- A strong portfolio of diverse products
- The ability to innovate quickly

Challenges for the coming year include:

- Continuing to attract and retain industry experts
- Maintaining an aggressive expansion program

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IT 2000™

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

September 1995

Arthur D. Little, Inc.

President & CEO: Charles R. LaMantia
Acorn Park,
Cambridge, MA 02140-2390
Phone: (617) 498-5000
Fax: (617) 492-2337

Status:	Private
Employees:	2,721 (12/94)
Consultants:	1,575 (12/94)
Revenue:	$432,509,000
Fiscal Year End:	12/31/94

Key Points

- Founded in 1886, Arthur D. Little, the world's first consulting firm, provides management and technology consulting.
- In 1995, Arthur D. Little acquired Innovation Associates (IA), a consulting company that assists companies to become learning organizations.
- During 1994 and 1995, Arthur D. Little transitioned into an international firm, opening offices in Abu Dhabi, Bombay, Bogota, Copenhagen, Dusseldorf, Harrogate, Kuala Lumpur, Lisbon, Madrid, Moscow, Rome and Seoul.
- In 1995, the firm entered into an alliance with Seker Management, based in Israel, to jointly market and deliver services to clients in Israel.
- In a move to grow its presence in the Indian sub-continent, Arthur D. Little entered into an agreement with Industrial Credit and Investment Corporation of India (ICICI), based in Bombay, India.
- Regional U.S. expansion included the opening of offices in Arlington, Chicago, Palo Alto, Philadelphia, Santa Barbara and Seattle.

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Company Description

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The firm was founded by Dr. Arthur Dehon Little, a Massachusetts Institute of Technology professor. Arthur D. Little operated as a public firm until June 1988, when shareholders voted to implement the Employee Stock Ownership Plan (ESOP) and the firm became a privately held corporation.

Organization and Structure

Headquartered in Cambridge (MA), Arthur D. Little has 51 offices in 30 countries.

The firm has U.S. offices in Arlington (VA); Cambridge (MA); Chicago (IL); Charleston (SC); Washington D.C.; Santa Barbara, San Francisco, Palo Alto and Los Angeles (CA); Houston (TX); Philadelphia (PA); Seattle (WA); and New York (NY).

The firm's international offices are located in Abu Dhabi, Berlin, Bombay, Bogota, Brussels, Buenos Aires, Cambridge (U.K.), Caracas, Copenhagen, Dusseldorf, Gothenburg, Harrogate, Hong Kong, Jeddah, Kuala Lumpur, Lisbon, London, Madrid, Mexico City, Monterey, Moscow, Munich, Paris, Prague, Riyadh, Rome, Rotterdam, Sao Paulo, Seoul, Singapore, Stockholm, Sydney, Tokyo, Toronto, Vienna, Wiesbaden and Zurich.

Arthur D. Little's key management is summarized in the exhibit on the following page.

Arthur D. Little has six subsidiaries as follows:

- Arthur D. Little Program Systems Management Company (PSMC), based in Cambridge (MA), manages and staffs major projects for industrial firms and government.
- Arthur D. Little Management Education Institute, Inc. (MEI), based in Cambridge (MA), is the professional education component of Arthur D. Little, Inc.
- Arthur D. Little Enterprises, Inc., based in Cambridge (MA), manages the commercialization of proprietary technology and develops equity opportunities for the parent company.
- Cambridge Consultants Ltd., Cambridge (England), provides technology consulting services, including research, development and deployment.
- Innovation Associates, Inc., acquired by Arthur D. Little in 1995, focuses on areas of leadership development, systems thinking, implementing organizational learning systems, developing high-performance teams and leading change implementation.
- The Joyce Institute, acquired in February 1995, is a ergonomics consulting firm.

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Exhibit A
Arthur D. Little, Inc.
Key Executives

Name	Title
Charles LaMantia	President & CEO
J. Paul Auton	Chairman and CEO, Cambridge Consultants Ltd.
Alan J. Friedman	Senior V.P. and Director, Human Resources
J. Ladd Greeno	Senior V.P. and Directorate Managing Director Environmental, Health and Safety Consulting
Phillip W. Hawley	Senior V.P. and Directorate Managing Director International Energy Directorate
Ashok S. Kalelkar	Senior V.P., Corporate Operations
P. Ranganath Nayak	Senior V.P. and Director of Product Development
Pedro J. Pick	Senior V.P. and Directorate Managing Director Latin America Management Consulting
Albert Sherman	Senior V.P. and Directorate Managing Director Technology and Product Development
W. Tom Sommerlatte	Senior V.P. and Directorate Managing Director European Management Consulting
Allan Steinmetz	Senior V.P. and Director, Marketing
Bruce Grant	Senior V.P. and Directorate Managing Director North America Management Consulting
Jeffrey W. Traenkle	Senior V.P. and Chief Financial Officer
Alfred E. Wechsler	Senior V.P., Corporate Operations

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Company Strategy

In 1994, Arthur D. Little, with half of its revenues coming from outside the U.S., successfully transitioned into an international firm. With respect to its expansion strategy, the firm is rapidly pursuing both a global as well as regional expansion program.

The firm is venturing into emerging markets such as India, Latin America through alliances and new offices.

Financials

Arthur D. Little's 1994 revenue was $433 million, a 13% increase over 1993.

A three-year revenue summary follows:

Arthur D. Little, Inc.
Three-Year Revenue Summary
($ Millions)

	Fiscal Year		
Item	1994	1993	1992
Revenue	$433	$385	$367
• Percent change from previous year	13%	5%	N/A

Revenue Analysis by Product/Service

Approximately 12% ($52 million) of Arthur D. Little's 1994 worldwide revenue was derived from professional consulting services in the information services field.

INPUT estimates that Arthur D. Little derived approximately 66% of its revenue from management consulting; 17% from technology and product development; and 17% from environmental, health and safety consulting.

Market Financials

Arthur D. Little's clients include more than 75% of the Fortune 100 companies (or their global equivalents).

The firm's global knowledge of best practices is built on guiding change in major industries, including—automotive; chemicals; consumer goods; energy; engineering and manufacturing; financial; health care; metals and resources; pharmaceuticals and medical products; postal organizations; public administrations; telecommunications, information and electronics; transportation; travel, tourism and hospitality; and utilities.

Arthur D. Little's typical business volume includes performing services for clients in more than 60 countries worldwide. More than 85% of the firm's business comes from repeat clients. Annually, the firm works on approximately 4,000 assignments.

Geographic Markets

INPUT estimates that approximately 50% of Arthur D. Little's total 1994 revenue was derived from the U.S. and the remaining 50% was from Europe and other international sources.

Employees

As of December 1994, Arthur D. Little had 2,721 employees. Of these, 1,575 were consultants.

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Key Products and Services

Arthur D. Little offers services through three main lines of business—management consulting; environmental, health and safety consulting; and technology and product development.

Management Consulting

Management consulting services are offered in eight core areas as follows:

- Strategy
- Customer management
- Information management
- Organization management
- Supply chain management
- Technology and innovation management
- Corporate finance management
- Manufacturing management

Environmental, Health and Safety Consulting

This group integrates technological expertise with management vision to provide services that include:

- Advanced chemical fingerprinting
- Environmental, health and safety auditing
- Environmental impact assessment
- Environmental strategy
- Ergonomics
- Industrial hygiene
- Management systems
- Natural resource damage assessment
- Occupational safety
- Pollution prevention
- Process safety
- Qualified risk assessment
- Radiation safety
- Remediation
- Risk management
- Safety management
- Site assessment
- Technology assessment
- Training
- Transportation safety

Technology and Product Development

This group is technology-focused and business-driven and offers services that include:

- Product development
- Technology assessment
- Technology development
- R&D management

Clients

Significant clients include Anheuser-Busch, Becton Dickinson & Company, BellSouth, Bosch, British Telecom International, Eurotunnel, Ford, Johnson & Johnson, Mobil, NASA, National Steel, New York Stock Exchange, U.S. Department of the Treasury and the U.S. Postal Service.

Marketing and Sales

Arthur D. Little has made strategic investments in its marketing process such as:

- Hiring a senior advertising and marketing strategist, Allan Steinmetz, to the post of Senior Vice President of Worldwide Marketing
- Recruiting other senior staff
- Retaining advertising and global public relations agencies
- Marketing through an integrated communications approach, including public relations, database marketing, advertising and relationship building forums around the world

A key and consistent marketing approach for over 100 years is the codification and publication of management books.

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Recent examples of Arthur D. Little's business management books include:

- *Product Juggernauts: How Companies Mobilize to Generate a Stream of Market Winners*
- *The Unwritten Rules of the Game*
- *Rethinking the Corporation: The Architecture of Change*
- *Breakthroughs!*
- *Third Generation R&D*

Alliances

In seeking to meet and anticipate the needs of its worldwide clients, Arthur D. Little has formed a number of alliances as follows:

- In May 1995, Arthur D. Little formed an alliance with Seker Management of Israel to pursue joint business engagements in Israel, in areas that complement the firm's strategic competencies.
- Arthur D. Little has an agreement with ICICI, based in Bombay, India. The two firms will work together on some assignments, as well as be involved in joint marketing and business development. Arthur D. Little will focus on management restructuring, while ICICI will be involved in financial restructuring of Indian businesses.

Competition

Arthur D. Little's competitors include traditional management consulting firms, environmental consulting firms and technology and product development firms.

The firm faces significant competition from major consulting firms, including McKinsey & Company, A.T. Kearney (EDS), Andersen Consulting, Coopers & Lybrand, Booz Allen & Hamilton, Gemini Consulting, CSC Consulting, Mercer Management Consulting and Monitor.

INPUT Assessment

Arthur D. Little's major strengths include:

- Approach to building strong client involvement in engagement team with focus on team and client learning
- Expertise of consultants in a diverse set of industries and technologies
- Strong client base
- Global focus
- Ability to organize global teams in many industries
- Strong portfolio of diverse products
- Ability to innovate quickly

Challenges for the coming year include:

- Ability to continue to attract and retain industry experts
- Ability to maintain aggressive expansion program

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ARTHUR D. LITTLE, INC.
Acorn Park Cambridge, MA 02140-2390
(617) 864-5770

Charles R. LaMantia, President and CEO
John F. Magee, Chairman
Private Corporation
Total Employees: 2,400
Total Revenue, Fiscal Year End
12/31/89: $293,000,000

The Company

Arthur D. Little, Inc., founded in 1886, is an international management and technology consulting firm providing services in the areas of strategy and organization, operations management, information and telecommunications management, product development, and environmental, health, and safety management.

- Typical business volume includes performing services for about 1,700 clients annually in some 60 countries worldwide.
- Information services provided by the company include professional services consulting, software development, and education and training.

Arthur D. Little operated as a public company until June 1988, when the shareholders voted to implement the Employee Stock Ownership Plan (ESOP), and it became a privately held corporation.

Arthur D. Little has five complementary operations, as follows:

- Arthur D. Little Enterprises, Inc., Cambridge (MA), manages the commercialization of proprietary technology and develops equity opportunities for the parent company.
- Arthur D. Little Program Systems Management Company, Cambridge (MA), manages and staffs major projects for industrial firms and governments.
- ADL Management Education Institute, Inc., Cambridge (MA), is the professional education component of Arthur D. Little, Inc.
- Cambridge Consultants Ltd., Cambridge (England), provides technology consulting services, including research, development, and deployment.

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- Opinion Research Corporation, Princeton (NJ) is a survey research firm that conducts marketing and public opinion studies.

Key Products and Services

INPUT estimates Arthur D. Little's 1989 U.S. information services revenue was $150 million and was derived from professional services consulting, custom development, and education and training.

Professional services are provided by Arthur D. Little in the area of information/telecommunications systems, including information and communications planning, technology planning and alignment, corporate technology risk assessment, expert systems design and implementation, and information and telecommunications assessment.

Professional services projects performed by Arthur D. Little include the following:

- In the area of planning and upgrading national telecommunications systems, Arthur D. Little has developed a plan for the Kingdom of Saudi Arabia's Ministry of Post, Telegraph, and Telephone.

- For the U.S. Department of the Treasury, ARthur D. Little analyzed voice and data communications requirements and developed system and network options, architecture and functional requirements, and procurement specifications for a private digital network.

- For an Asian telecommunications company, Arthur D. Little designed an integrated information system combining all customer, product, pricing, and repair data needed to streamline service, billing, and maintenance operations.

- For an affiliate of a global energy company, Arthur D. Little assisted in developing a new information strategy to improve the efficiency of day-to-day operations. Arthur D. Little defined the optimal data and applications architectures to drive the business and created a detailed migration plan for implementation.

- For a $5.5 billion division of an international chemical company, Arthur D. Little define the architecture for an information management system that would deliver decision support information to appropriate management.

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- For an international hotel corporation, Arthur D. Little assisted in improving an 800-number telephone reservation system by identifying a more effective system configuration and recommending new opportunities for business by giving customer service representatives on-line access to information tailored to each call.

- For the federal government, Arthur D. Little has provided program management, specializing in systems engineering and technical assistance, cost schedule and performance control, acquisition management, configuration management, and integrated logistics support on a fully dedicated basis.

Arthur D. Little also offers the following consulting services:

- Strategy and organization, including technology and innovation management, improving shareholder value, marketing management, business strategy development, corporate development, organization planning, and financial management.

- Operations management, including total quality management, manufacturing strategy, cost reduction, facilities rationalization, reduction of product development lead time, logistics system optimization, developing the supply base, and improving marketing effectiveness.

- Environmental, health, and safety, including risk assessment and management, environmental auditing, technology evaluation, waste treatment, waste minimization, environmental technology and engineering, occupational health and safety, contract toxicology, environmental chemistry, epidemiology and health risk assessment, process safety, earth sciences, and marine sciences.

- Product development, including opportunity assessment, concept generation, product design, design review, prototyping, process development, manufacturing design, industrial design, product launch, and product chemistry.

Industry Markets

Arthur D. Little targets its professional services to cross-industry, Fortune 500 companies. Among the industries the company serves are chemicals and plastics, consumer products, electronics, energy, entertainment, financial services, general manufacturing, government (federal, state, and local), health care, information technologies, telecommunications, and travel and tourism.

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INPUT estimates approximately 35% of the company's revenue is derived from the federal government, 30% from manufacturing, and the remainder from other industries.

Geographic Markets

Approximately 60% of Arthur D. Little's total 1989 revenue was derived from the U.S., 30% from Europe, and 10% from other international sources.

Arthur D. Little has U.S. offices in Cambridge (MA); Washington, D.C.; Santa Barbara, San Francisco, and Los Angeles (CA); Houston (TX); and New York (NY).

ARthur D. Little also has international offices located in Belgium, Brazil, Canada, China, Denmark, France, Germany, Hong Kong, Italy, Japan, Mexico, the Netherlands, Saudi Arabia, Singapore, Spain, Taiwan, the U.K., and Venezuela.

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COMPANY PROFILE

ARTIFICIAL INTELLIGENCE CORPORATION
100 Fifth Avenue
Waltham, MA 02254
(617) 890-8400

Larry R. Harris, President
Private Corporation
Total Employees: 60
Total Revenue, Fiscal Year End 3/31/84: $4,000,000*

THE COMPANY

- Artificial Intelligence Corporation (AIC) was founded in 1975 by Larry Harris to develop INTELLECT, the first natural language English query system available commercially. INTELLECT, in research and development until its introduction in early 1981, is now installed at over 260 locations across the U.S.

- T. A. Associates, a Boston-based investment firm, invested an estimated $1.8 million in AIC in October 1980, a short time before the introduction of INTELLECT. In June 1984 a private offering gained an additional $5 million investment.

- As of fiscal year end March 1984 AIC had 60 employees. AIC currently has 54 employees segmented as follows:

Marketing/sales	13
Software services/ customer support	17
Research and development	15
General and administrative	9
	54

- While AIC is by far the leading vendor of natural language query systems, some competitors have emerged in this sector of the artificial intelligence market. These include Cognitive Systems, Inc. in New Haven (CT), Bolt Beranek and Newman in Cambridge (MA), and MICRORIM in Bellevue (WA).

KEY PRODUCTS AND SERVICES

- AIC derived 100% of its fiscal 1983 revenue from software product and related services. Approximately 10% of revenue was from fees for customer application-specific dictionary development.

- INTELLECT is the first commercial on-line natural language query system employing artificial intelligence technology to allow nontechnical users to interact with computerized data bases using everyday, conversational English. The system performs information retrieval, display, and analysis,

*INPUT estimate

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placing the burden of understanding and clarification on the computer, not the user. Because it is unnecessary to learn rigid grammatical codes, query languages, or special syntax, almost no training is required to use the system.

- Features include the following:

  - A built-in ability to analyze English grammar and understand a wide variety of query forms, including complex sentences, pronoun references, sentence fragments, poor syntax, and ambiguities.

  - An understanding of each user's particular vocabulary and linguistic style through use of a customized Lexicon, or dictionary.

  - An almost instant translation of queries, which optimizes data retrieval and ensures quick response.

  - Response to user queries in clear, familiar English, phrased in terms of the query.

  - An ability to relate information from several files to respond to a query. The system uses contextual interpretation to discern intended meanings.

  - A library of data processing functions including statistics (minimum, maximum, average, and total); counting; correlation; comparison; totalling and subtotalling; total ratio; ranked comparison, subtotals, and percent-of-total; and histogram with vertical and horizontal display and report output formats.

  - Color graphics display through a dynamic interface to IBM's PGF graphics system.

  - General file-level, record-level, and field-level security invoked by a password.

- INTELLECT can be applied to any application. The majority of applications are business-oriented, including payroll, personnel, human resources, marketing, financial, and banking.

- The Lexicon, a key element in the INTELLECT system, is an application-specific dictionary custom designed for each respective business environment to reflect vocabulary, special terminology, synonyms, and user jargon. It contains value names and descriptions of each file, record, and field that may be called for in a query, allowing INTELLECT to understand inquiries phrased in a wide variety of ways.

  - The Lexicon directs INTELLECT to perform computations on specific data fields for use in display, printout, record selection, and sorting and to translate data codes into terms more familiar to the user.

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- INTELLECT uses the Lexicon to define logical, complex, and multilevel relationships within the data for use in interpreting queries.

- Lexicon entries control operational aspects including size and format of the terminal display screen and printed page, security and user-selectable viewing instructions, sorting of data, and default responses to nonspecific queries. A master interaction file logs unfamiliar words for use in updating the Lexicon.

- AIC customer support representatives are trained to construct, add to, and maintain Lexicons and train users to perform these same tasks. Lexicon development requires one to six weeks.

- Versions of INTELLECT are currently available for use with AIC's DFAM (Derived File Access Method), Software AG's ADABAS, Information Builder's FOCUS, and IBM's VSAM and SQL. INTELLECT also interfaces to IBM's Presentation Graphics Facility (PGF).

  - INTELLECT is available through OEM vendors under various product names.

    - Cullinet Software markets On-Line English, which interfaces with its IDMS data base management system.

    - Information Science markets GRS Exec as an interface to its Human Resource System.

    - Integral Systems markets IQ200 Report Writer which serves as a module to their Human Resource Management System.

    - Management Decision Systems markets ELI (English Language Interface) as an interface to Express, its modeling analysis system.

    - Honeywell markets INTELLECT under the MULTICS operating system with an interface to its MRDS data base management system.

  - Plans include the development of INTELLECT interfaces to various data base management systems and graphics, statistical, and modeling packages.

- Intellect's Micro-to-Mainframe Link product will integrate IBM PC applications into terminal emulation on the personal computer. The software, which requires a mainframe connection, acts as a front-end supervisor to many database, graphics, and spreadsheet programs. Micro-to-Mainframe Link will be available in the third quarter of 1985.

- INTELLECT is available on the processing networks of Boeing Computer Services, Control Data Corporation, Decision Products Services, and AVCO Computer Services.

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- AIC clients are primarily Fortune 500 companies and include Ford Motor Company, which uses INTELLECT to check environmental standards for its automobiles; Du Pont, where over 100 employees use INTELLECT to handle questions about sales and production of plastics, polymers, and resins; and Fleet Financial Group, where INTELLECT is used for commercial loan portfolio applications.

  - Other clients include Aetna Life & Casualty, Long Island Lighting, Reynolds Metals, Southern California Edison, Steelcase, and Chemical Bank.

- INTELLECT runs on IBM 370, 4300, 30XX, and compatible mainframes under OS, DOS, VS, VM/CMS, and Honeywell's MULTICS. A limited version will operate on any Prime minicomputer running under PRIMOS. Versions are being developed for use in other minicomputer environments.

  - The INTELLECT package is priced at $69,500, which includes training and support. Interfaces and Lexicon development are additional.

  - There are over 260 installations of the product, which has been commercially available since early 1981.

- AIC plans include the eventual use of INTELLECT as the common query language and interface between all data bases and software systems in a company's data center, acting as the only system required for the end user to interact with.

INDUSTRY MARKETS

- AIC's fiscal 1984 revenue was derived from the following industry segments:

Discrete manufacturing	13%
Transportation	2
Utilities	8
Banking and finance	10
Insurance	17
Medical	2
Services	10
Other	38
	100%

GEOGRAPHIC MARKETS

- One hundred percent of fiscal 1983 revenue was derived from the U.S.

  - AIC maintains sales branch offices in New York, Los Angeles, San Francisco, Washington (DC), and Houston.

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COMPUTER HARDWARE AND SOFTWARE

- AIC has one IPL 4446 running under VM and various IBM PCs and terminals installed in Waltham.

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COMPANY HIGHLIGHT

ARTIFICIAL INTELLIGENCE CORPORATION
100 Fifth Avenue
Waltham, MA 02254
(617) 890-8400

Larry R. Harris, President
Private Corporation
Total Employees: 35
Total Revenue, Fiscal Year End 3/31/83: $3,000,000*

THE COMPANY

- Artificial Intelligence Corporation (AIC) was founded in 1975 by Larry Harris to develop INTELLECT, the first natural language English query system available commercially. INTELLECT, in research and development until its introduction in early 1981, is now installed at over 100 locations across the U.S.

- T. A. Associates, a Boston-based investment firm, invested an estimated $1.8 million in AIC in October 1980, a short time before the introduction of INTELLECT.

- AIC's 35 employees are segmented as follows:

Marketing/sales	6
Software services/ customer support	12
Research and development	11
General and administrative	6
	35

- Although AIC has no direct competition at this time, other companies developing artificial intelligence-based software have been formed. These include Cognitive Systems, Inc. in New Haven (CT), Machine Intelligence Corporation in Sunnyvale (CA), IntelliGenetics, Inc. in Palo Alto (CA), and Computer Thought Corporation in Richardson (TX).

KEY PRODUCTS AND SERVICES

- AIC derived 100% of its fiscal 1983 revenue from software product and related services. Approximately 10% of revenue was from fees for customer application-specific dictionary development.

- INTELLECT is the first commercial on-line natural language query system employing artificial intelligence technology to allow nontechnical users to interact with computerized data bases using everyday, conversational English. The system performs information retrieval, display, and analysis, placing the burden of understanding and clarification on the computer, not the

*INPUT estimate

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user. Because it is unnecessary to learn rigid grammatical codes, query languages, or special syntax, almost no training is required to use the system.

- Features include the following:

  - A built-in ability to analyze English grammar and understand a wide variety of query forms, including complex sentences, pronoun references, sentence fragments, poor syntax, and ambiguities.

  - An understanding of each user's particular vocabulary and linguistic style through use of a customized Lexicon, or dictionary.

  - An almost instant translation of queries, which optimizes data retrieval and ensures quick response.

  - Response to user queries in clear, familiar English, phrased in terms of the query.

  - An ability to relate information from several files to respond to a query. The system uses contextual interpretation to discern intended meanings.

  - A library of data processing functions including statistics (minimum, maximum, average, and total); counting; correlation; comparison; totalling and subtotalling; total ratio; ranked comparison, subtotals, and percent-of-total; and histogram with vertical and horizontal display and report output formats.

  - Color graphics display through a dynamic interface to IBM's PGF graphics system.

  - General file-level, record-level, and field-level security invoked by a password.

- INTELLECT can be applied to any application. The majority of applications are business-oriented, including payroll, personnel, human resources, marketing, financial, and banking.

- The Lexicon, a key element in the INTELLECT system, is an application-specific dictionary custom designed for each respective business environment to reflect vocabulary, special terminology, synonyms, and user jargon. It contains value names and descriptions of each file, record, and field that may be called for in a query, allowing INTELLECT to understand inquiries phrased in a wide variety of ways.

  - The Lexicon directs INTELLECT to perform computations on specific data fields for use in display, printout, record selection, and sorting and to translate data codes into terms more familiar to the user.

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- INTELLECT uses the Lexicon to define logical and complex, multilevel relationships within the data for use in interpreting queries.

- Lexicon entries control operational aspects including size and format of the terminal display screen and printed page, security and user-selectable viewing instructions, sorting of data, and default responses to nonspecific queries. A master interaction file logs unfamiliar words for use in updating the Lexicon.

- AIC customer support representatives are trained to construct, add to, and maintain Lexicons and train users to perform these same tasks. Lexicon development requires one to six weeks.

- Versions of INTELLECT are currently available for use with AIC's DFAM (Derived File Access Method), Software AG's ADABAS, and IBM's VSAM and SQL. INTELLECT also interfaces to IBM's Presentation Graphics Facility (PGF).

  - INTELLECT is available through OEM vendors under various product names.

    - Cullinet Software markets On-Line English, which interfaces with its IDMS data base management system.

    - Information Science markets GRS Exec as an interface to its Human Resource System.

    - Management Decision Systems markets ELI (English Language Interface) as an interface to Express, its modeling analysis system.

    - Honeywell markets INTELLECT under the MULTICS operating system with an interface to its MRDS data base management system.

  - Plans include the development of INTELLECT interfaces to various data base management systems and graphics, statistical, and modeling packages.

- INTELLECT is available on the processing networks of Boeing Computer Services, Control Data Corporation, Decision Products Services, and AVCO Computer Services.

- AIC clients are primarily Fortune 500 companies and include Ford Motor Company, which uses INTELLECT to check environmental standards for its automobiles; Du Pont, where over 100 employees use INTELLECT to handle questions about sales and production of plastics, polymers, and resins; and Fleet Financial Group, where INTELLECT is used for commercial loan portfolio applications.

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- Other clients include Filene's, Aetna Life & Casualty, Long Island Lighting, Reynolds Metals, Southern California Edison, T. J. Lipton, and Chemical Bank.

- INTELLECT runs on IBM 370, 4300, 30XX, and compatible mainframes under OS, DOS, VS, VM/CMS, and Honeywell's MULTICS. A limited version will operate on any Prime minicomputer running under PRIMOS. Versions are being developed for use in other minicomputer environments.

  - The INTELLECT package is priced at $69,500, which includes training and support. Interfaces and Lexicon development are additional.

  - There are over 100 installations of the product, which has been commercially available since early 1981.

- AIC plans include the eventual use of INTELLECT as the common query language and interface between all data bases and software systems in a company's data center, acting as the only system required for the end user to interact with.

INDUSTRY MARKETS

- AIC derives its revenue from clients in all industry sectors.

GEOGRAPHIC MARKETS

- One hundred percent of fiscal 1983 revenue was derived from the U.S.

  - AIC does not maintain branch offices at this time. All sales are conducted through its headquarters location.

COMPUTER HARDWARE AND SOFTWARE

- AIC has one IPL 4446 running under VM installed in Waltham.

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ASA INTERNATIONAL LTD.
1700 West Park Drive
Westborough, MA 01581
(508) 898-2727

After June 15, 1992:
10 Speen Street
Framingham, MA 01701

Alfred C. Angelone, Chairman and CEO
Christopher Crane, President
Robert L. Voelk, Executive Vice President
Public Corporation, NASDAQ
Total Employees: 204 (12/91)
Total Revenue, Fiscal Year End
12/31/91: $23,462,892

The Company

ASA International Ltd. (ASA) currently develops, markets, and supports integrated systems in four vertical markets: international trade, manufacturing, independent tire dealers, and law firms.

During the past year, ASA made two acquisitions in the legal market.

- In June 1991, ASA acquired Quorum Systems of Plymouth Meeting (PA) from Control Data Corporation for approximately $1.1 million. Quorum provides processing, software, and turnkey systems to over 200 law firms and corporate legal departments. Quorum had 1990 revenue of about $8.5 million.

- In January 1992, ASA acquired Legal Data Systems Inc. of Boston (MA) for approximately $345,000. Legal Data provides law automation software to approximately 70 clients.

ASA is currently organized into the following groups:

- The International Trade and Transportation Systems Group, headquartered in Salem (NH), provides IBM AS/400 and DEC VAX-based software products and turnkey systems to customshouse brokers, freight forwarders, and other international trade participants in the U.S. and Canada. The group was formed by acquisition in 1983 and expanded in 1990 with the acquisition of its largest competitor, Trade Data Services, Inc.

- The CIM Systems Group, headquartered in Framingham (MA), was formed by merging ASA's Manufacturing and Bar Code Data Collection units. This group provides DEC VAX-based MRPII systems and real-time bar code data collection systems for the manufacturing shop floor.

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- The Tire Systems Group, headquartered in Framingham (MA), provides DEC VAX and UNIX-based turnkey systems to tire retailers and distributors in the U.S. and Canada.

- The Legal Systems Group, headquartered in Plymouth Meeting (PA) and formed with the acquisitions of Quorum and Legal Data, provides processing services, and DEC VAX and UNIX-based software products and turnkey systems to law firms and corporate legal departments.

ASA's 1991 revenue reached $23.5 million, a 25% increase over 1990 revenue of $18.7 million. Net income rose 18%, from $285,000 in 1990 to $336,000 in 1991. A five-year financial summary follows:

ASA INTERNATIONAL LTD.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1991	1990	1989	1988	1987
Revenue	$23,463	$18,731	$23,769	$19,281	$16,931
· Percent increase (decrease) from previous year	25%	(21%)	23%	14%	14%
Income (loss) before taxes	$407	$318 (a)	$575	$(795)	$264
· Percent increase (decrease) from previous year	28%	(45%)	172%	(401%)	186%
· Gross margin	2%	2%	2%	N/A	2%
Net income (loss)	$336 (b)	$285 (b)	$520 (b)	$(518)	$223
· Percent increase (decrease) from previous year	18%	(45%)	200%	(332%)	141%
· Net margin	1%	2%	2%	N/A	1%
Earnings (loss) per share (c)	$0.09	$0.07	$0.14	$(0.14)	$0.05
· Percent increase (decrease) from previous year	29%	(50%)	200%	(380%)	125%

(a) Includes a $1.3 million net gain on the sale of subsidiary and product lines.

(b) Includes an extraordinary credit of $211,000 in 1991, $205,000 in 1990, and $203,000 in 1989 resulting from the benefit of net operating loss carryforward.

(c) Restated to reflect a one-for-50 reverse stock split effective May 4, 1990.

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A three-year source of revenue summary by operating group follows:

ASA INTERNATIONAL, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1991		1990		1989	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
International Trade	$7.6	32%	$8.9	47%	$8.3	35%
CIM	5.9	25%	5.2	28%	10.3	43%
Tire/Distribution (a)	5.2	22%	4.6	25%	5.2	22%
Legal	4.8	21%	--	--	--	--
TOTAL	**$23.5**	**100%**	**$18.7**	**100%**	**$23.8**	**100%**

(a) Includes revenue from hardgoods distribution systems operations of approximately $565,000 in 1990 and $2.3 million in 1989. These operations were sold in 1990.

ASA management attributes 1991 results to the following:

- International Trade Group revenue declined 15%, reflecting the continuing economic uncertainty and business consolidation in this market. The group had pretax earnings of $517,000 in 1991, compared to losses of $42,000 for 1990.

- CIM Group revenues increased 12% due to an improvement in sales related to the bar code data collection product line. The group had pretax earnings of $360,000 in 1991, compared to earnings of $107,000 in 1990.

- The Tire/Distribution Group had a 201% increase in revenues due partially to the acquisition of Computers Northwest, Inc., in June 1990. The group had pretax earnings of $494,000 in 1991, compared to $164,000 in 1990.

- The Legal Systems Group, newly formed in 1991, contributed nearly 21% to ASA's total revenue. The group's pretax earnings were $426,000.

As of December 31, 1991, ASA had 204 full-time employees, segmented as follows:

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Marketing and sales	38
Customer support and training	58
Custom/product development and engineering	51
General and administrative	27
Legal service bureau	21
Executive officers	9
	204

ASA's primary competitors, by market area, include the following:

- International trade: Freight Data Systems, Ltd.
- Manufacturing systems: IBM, ASK Computer Systems, and Cincom
- Tire systems: Madden Co. and Progressive Computer Systems
- Bar code data collection: Welch-Allyn, Epic Data Systems, and Burr Brown
- Legal systems: This group has many competitors, including Automation Partners, Capsoft Development, CMS/DATA, CompuTrac, Elite, and Juris

Key Products and Services

Virtually all of ASA's 1991 revenue was derived from turnkey systems and associated support services. A small percentage was derived from processing services provided to the legal market.

ASA currently has more than 1,800 clients.

The International Trade and Transportation Systems Group provides software products and turnkey systems that prepare documents required for compliance with U.S. Customs' regulations, track the movement of goods and paperwork, and perform invoicing and general-accounting functions. The products are targeted to customshouse brokers and freight forwarders.

- The Custom House Documentation System prepares the forms required by a customshouse broker to complete an import shipment, calculates import duties and service fees, prepares invoices, processes liquidations, and tracks missing documents.
  - Each system includes a data base of tariffs provided by U.S. Customs. ASA updates this data base as changes are made by the U.S. government.

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- The system is available for DEC VAX and IBM AS/400 computers, based on the size and number of entries processed by a particular customshouse broker. Pricing ranges from $30,000 to $500,000.

- A shipment-tracing module facilitates tracking of import shipments. Importers may access their own information using the import connection to their broker's data base.

· ASA's Automated Broker Interface (ABI) system extracts entry summary data from ASA's Custom House Documentation System. ABI formats and electronically transmits this data to the U.S. Customs' computer, which facilitates shipment release and document filing. Customs Automated Data Exchange System (CADEX) is the Canadian equivalent of ABI.

· ASA's export systems for air and ocean freight forwarders are based on DEC and IBM hardware.

- The Air Freight System processes information for each shipment of goods, including performing an automatic credit check of the shipper, validating shipment information, preparing bills of lading, routing shipments for multibranch companies, assigning air waybills, calculating freight charges, consolidating multiple shipments, calculating commissions, and tracking shipments.

- The Ocean Export Documentation System performs similar functions, including tracking vessel departures and arrivals, preparation of commercial invoices and other required export documents, tracking of ocean freight commissions, and providing sales management information.

· FaxMax™ sends faxes from DEC VAX computers to any fax machine.

· FaxTrax automatically faxes shipment status information to selected customers.

· ASA markets accounting software for use with its import and export systems or as a separate system for companies involved in international trade.

- Applications supported include billing, tracking of accounts receivable and accounts payable, verification and matching of related transactions, general ledger, financial reporting, sales analysis, and tracking of brokerage commissions from steamship lines and airlines.

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- ASA EDI Engine is an EDI translation product.

- Customers are located in the U.S., Canada, Puerto Rico, Bermuda, and the Virgin Islands.

The CIM Systems Group provides DEC VAX and UNIX-based software products and turnkey systems for manufacturing control and accounting applications and real-time bar code data collection systems for the manufacturing shop floor.

- The Opus™ Manufacturing System is a turnkey manufacturing control and accounting system for DEC MicroVAX and VAX computers and networks. This is a closed-loop system primarily for make-to-order manufacturers ranging in size from about $3 to $30 million in sales volume.

  - Modules include Estimating and Quoting, Job Shop Control, Bill of Materials, Inventory Control, Multi-Location Inventory, Production Control, MRP, Purchasing, General Ledger, Sales Order Entry/Invoicing, Sales Order Analysis, Sales Order Configurator, Payroll, Accounts Receivable, Accounts Payable, Prospect Tracking, and an ad-hoc report writer.

- The Opus ™II System is an on-line, closed-loop MRPII system for DEC MicroVAX and VAX computers and networks. The system is targeted primarily to make-to-stock manufacturers with over $25 million in sales volume.

  - Modules include Bill of Materials, Inventory Control, Master Production Scheduling, Material Requirements Planning, Purchasing, Production Control, and Sales Order Management.

- ASA also offers a set of financial applications that can be integrated with the Opus and Opus II systems. Applications include general ledger, financial reporting, accounts receivable, accounts payable, payroll, bank reconciliation, project tracking, and fixed assets.

ASA markets and supports the ShopKeeper™ family of bar code data collection applications for shop floor management. The software runs under the DEC VAX/VMS and Stratus VOS operating systems.

- ShopKeeper collects data on the manufacturing shop floor using various manufacturers' bar code data collection devices.

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- Data collection applications include time and attendance, labor reporting, work-in-process, inventory, and lot traceability.

- Wand 2S is a utility for data collection network management.

- ASA also provides clients with the system integration and support services needed to implement a bar code data collection system on the shop floor. Professional services provided by this group include designing and installing custom systems software applications on DEC hardware.

The Tire Systems Group provides turnkey systems to independent tire dealers, wholesalers, and retreaders. The group currently has over 800 customers in the U.S. and Canada.

- Tire Max 2000 is ASA's system for DEC VAX and UNIX systems and is targeted to independent tire dealers.

  - System functions include order processing, inventory control, bill of materials, purchasing, accounts receivable, accounts payable, sales analysis, and general ledger.

  - During 1990, bar code data collection and EDI capabilities were added.

  - System prices range from $15,000 to $200,000.

The Legal Systems Group provides turnkey systems, software products, and processing services to over 270 law firms/corporate legal departments.

- The group offers a batch processing service for timekeeping and bill information management. There are currently over 70 processing clients.

- Legal Advocate™ is an open systems applications software product designed to run on non-proprietary operating systems and multiple hardware platforms, including UNIX- and Intel-based PCs and IBM's RS/6000.

  - The system supports the requirements of the average law firm, including generating reports, bills, and other documents; timekeeping; client accounting; billing; accounts receivable; transfers and adjustments; and client and matter inquiry.

  - Legal Advocate is priced from $9,000 to $56,000.

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- Management Program 2000 (MP2000)™ is a DEC VAX-based financial management and reporting system with relational data base management capabilities.
  - MP2000 is designed to help medium-sized and large law firms manage day-to-day billing and overall financial performance.
  - Applications supported include client accounting, general ledger, accounts payable, conflict of interest, docket control, and legal records management.
  - MP2000 ranges in price from $70,000 to $50,000.
- Desktop Integration Services helps law firms to integrate a variety of PC-based software packages with existing hardware and operating systems.

Industry Markets

Approximately 32% of ASA's 1991 revenue was derived from customshouse brokers and freight forwarders, 25% from manufacturers, 22% from tire distributors, and 21% from the legal market.

Geographic Markets

Over 90% of ASA's 1991 revenue was derived from the U.S. and 10% from Canada.

Effective June 15, 1992, ASA's headquarters will be in Framingham (MA). Other U.S. offices are in Salem (NH), New York (NY), Tucker (GA), Redmond (WA), and Plymouth Meeting (PA).

Computer Hardware and Software

ASA has DEC VAX 3XXX and MicroVAX computers installed in Westborough (MA) and Salem (NH) in support of its research and development and customer support activities.

Various DEC systems are installed in Plymouth Meeting (PA) in support of processing provided to the legal market.

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ASA INTERNATIONAL LTD.
1700 West Park Drive
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(508) 898-2727

Alfred C. Angelone, Chairman and CEO
Christopher Crane, President
Robert L. Voelk, Executive Vice President
Public Corporation, NASDAQ
Total Employees: 136 (12/90)
Total Revenue, Fiscal Year End
12/31/90: $18,731,000

The Company

ASA International Ltd. (ASA) currently develops, markets, and supports integrated systems in three vertical markets: international trade, manufacturing, and independent tire dealers. The company also provides systems for bar code data collection.

- The company's strategy includes acquiring financially troubled companies with strong products and customers and improving their performance within the first year of the acquisition.

ASA is currently organized into the following groups:

- The International Trade and Transportation Systems Group provides IBM AS/400 and DEC VAX-based software products and turnkey systems to customshouse brokers, freight forwarders, and other international trade participants in the U.S. and Canada. The group was formed by acquisition in 1983 and expanded in 1990 with the acquisition of its largest competitor, Trade Data Services, Inc.

- The CIM Systems Group was formed by merging ASA's Manufacturing and the Bar Code Data Collection units. This group provides DEC VAX-based MRP II systems and real-time bar code data collection systems for the manufacturing shop floor.

- The Tire Systems Group provides DEC VAX and UNIX-based turnkey systems to tire retailers and distributors in the U.S. and Canada.

Recent acquisitions include the following:

- In June 1991, ASA acquired Quorum Systems from Control Data Corporation.

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- Quorum Systems provides processing services, software products, and turnkey systems to over 400 law firms and corporate legal departments.

- In September 1990, ASA acquired Computers Northwest, Inc. of Redmond (WA) for a total consideration of $335,000.

  - Computers Northwest provides DEC and UNIX-based accounting and wholesale distribution software products to tire retailers and distributors. Computers Northwest was ASA's major competitor in the tire systems market.

  - The operations of Computers Northwest have been merged into ASA's Tire Systems Group.

- In June 1990, ASA acquired the customer base of Computer Systems Development Inc., the U.S. affiliate of Computer Systems Development Ltd. (CSD), a British supplier of MRP II systems based on the DEC VAX.

  - IMPCON is the MRP II system developed by CSD to which ASA acquired the rights to support and service in the U.S. and Canada. ASA did not acquire the rights to the IMPcon product for new customer sales.

  - These operations were consolidated with ASA's CIM Systems Group.

Divestitures made by ASA during 1990 include the following:

- In December 1990, ASA sold its SOFBOL utility systems software product line for DEC VAX computers. The products were originally acquired with Omtool Corporation in March 1989.

- In June 1990, ASA sold the assets of its Burlington (MA)-based hardgoods distribution systems unit (BIT), which ASA acquired in 1988, to Distribution Management Systems, Inc.

  - Although the hardgoods system is based on the DEC VAX, ASA management concluded that its size, market share, performance during 1990, and limited growth potential did not justify the executive attention required or the ongoing investment.

  - BIT generated revenues of approximately $2.3 million in 1989 and contributed approximately $565,000 to ASA's 1990 revenue.

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- In January 1990, ASA sold its Micro-MRP, Inc. subsidiary to Kewill Systems PLC (U.K.) for $5.3 million.
  - Micro-MRP develops and markets IBM and compatible microcomputer software products and turnkey systems for MRP II manufacturing and financial control applications.
  - Micro-MRP had approximately 40 employees at the time of the divestiture and 1989 revenue of about $5.2 million.

ASA's 1990 revenue was $18.7 million, a 21% decrease from $23.8 million for 1989. Net income was $285,000, compared to net income of $520,000 for 1989. A five-year financial summary follows:

ASA INTERNATIONAL LTD.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1990	1989	1988	1987	1986
Revenue	$18,731	$23,769	$19,281	$16,931	$14,894
· Percent increase (decrease) from previous year	(21%)	23%	14%	14%	1%
Income (loss) before taxes	$318 (a)	$575	$(795)	$264	$(308)
· Percent increase (decrease) from previous year	(45%)	172%	(401%)	186%	43%
· Gross margin	2%	2%	N/A	2%	N/A
Net income (loss)	$285 (b)	$520 (b)	$(518)	$223	$(540)
· Percent increase (decrease) from previous year	(45%)	200%	(332%)	141%	5%
· Net margin	2%	2%	N/A	1%	N/A
Earnings (loss) per share (c)	$0.07	$0.14	$(0.14)	$0.05	$(0.20)
· Percent increase (decrease) from previous year	(50%)	200%	(380%)	125%	33%

(a) Includes a $1.3 million net gain on the sale of subsidiary and product lines.

(b) Includes an extraordinary credit of $205,000 in 1990 and $203,000 in 1989 resulting from the benefit of net operating loss carryforward.

(c) Restated to reflect a one-for-50 reverse stock split effective May 4, 1990.

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A three-year source of revenue summary by operating group follows:

ASA INTERNATIONAL, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1990		1989		1988	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
International Trade	$8.9	47%	$8.3	35%	$7.7	40%
CIM	5.2	28%	10.3	43%	8.6	44%
Tire/Distribution (a)	4.6	25%	5.2	22%	3.0	16%
TOTAL	**$18.7**	**100%**	**$23.7**	**100%**	**$19.3**	**100%**

(a) Includes revenue from BIT operations of approximately $565,000 in 1990, $2.3 million in 1989, and $1.8 million in 1988.

ASA management attributes 1990 results to the following:

- International Trade Group revenue increased 8% due to increased revenue generated by the IBM-based products acquired from Trade Data Services in January 1990. This increase was offset by a $1.2 million decline in revenues from DEC VAX-based products. The group had pretax losses of $42,000 in 1990, compared to pretax earnings of $940,000 in 1989.

- The Tire/Distribution Group had a 12% decline in revenue resulting from the sale of BIT in mid-1990. Revenues from Tire Systems increased approximately $1.1 million during 1990, of which $572,000 was contributed by Computers Northwest, which was acquired in August 1990. The group had pretax earnings of $164,000 in 1990, compared to losses of $280,000 in 1989.

- CIM Group revenues declined over $5 million (49%) due to the elimination of nearly $5.2 million in revenue generated by Micro-MRP, which was sold in January 1990 and contributed no revenue to ASA during calendar 1990. Revenues for VAX-based manufacturing products remained approximately unchanged for this period. The group had pretax earnings of $107,000 in 1990, compared to $1.4 million in 1989.

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Revenue for the three months ending March 31, 1991 was nearly $4.0 million, a 16% decrease from $4.8 million for the same period in 1990. Net income was $9,648, compared to $902,304 (including a $1.4 million gain on the sale of Micro-MRP) for the same period a year ago.

- International Trade and Transportation Systems' revenue declined 39% due to the continuing economic uncertainty and business consolidation in its market.
- Tire Systems' revenue from ongoing operations increased 33% during the quarter. This was offset by the loss of BIT revenue.
- CIM Systems' revenue rose 23%.

As of December 31, 1990, ASA had 136 full-time employees, segmented as follows:

Marketing and sales	25
Customer support and training	30
Custom/product development and engineering	44
General and administrative	29
Executive officers	8
	136

ASA's primary competitors, by market area, include the following:

- International trade: Freight Data Systems, Ltd.
- Manufacturing systems: IBM, ASK Computer Systems, and Cincom
- Tire systems: Madden Co. and Progressive Computer Systems
- Bar code data collection: Welch-Allyn, Epic Data Systems, and Burr Brown

Key Products and Services

Virtually all of ASA's 1990 revenue was derived from turnkey systems and associated support services.

ASA currently has more than 1,500 clients.

The International Trade and Transportation Systems Group provides software products and turnkey systems that prepare documents required for compliance with U.S. Customs' regulations, track the movement of goods and paperwork, and perform invoicing

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and general-accounting functions. The products are targeted to customshouse brokers and freight forwarders.

- The Custom House Documentation System prepares the forms required by a customshouse broker to complete an import shipment, calculates import duties and service fees, prepares invoices, processes liquidations, and tracks missing documents.

  - Each system includes a data base of tariffs provided by U.S. Customs. ASA updates this data base as changes are made by the U.S. government.

  - The system is available for DEC VAX and IBM AS/400 computers, based on the size and number of entries processed by a particular customshouse broker. Pricing ranges from $30,000 to $500,000.

  - A shipment-tracing module facilitates tracking of import shipments. Importers may access their own information using the import connection to their broker's data base.

- ASA's Automated Broker Interface (ABI) system extracts entry summary data from ASA's Custom House Documentation System. ABI formats and electronically transmits this data to the U.S. Customs' computer, which facilitates shipment release and document filing. Customs Automated Data Exchange System (CADEX) is the Canadian equivalent of ABI.

- ASA's export systems for air and ocean freight forwarders are based on DEC and IBM hardware.

  - The Air Freight System processes information for each shipment of goods, including performing an automatic credit check of the shipper, validating shipment information, preparing bills of lading, routing shipments for multibranch companies, assigning air waybills, calculating freight charges, consolidating multiple shipments, calculating commissions, and tracking shipments.

  - The Ocean Export Documentation System performs similar functions, including tracking vessel departures and arrivals, preparation of commercial invoices and other required export documents, tracking of ocean freight commissions, and providing sales management information.

- ASA markets accounting software for use with its import and export systems or as a separate system for companies involved in international trade.

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- Applications supported include billing, tracking of accounts receivable and accounts payable, verification and matching of related transactions, general ledger, financial reporting, sales analysis, and tracking of brokerage commissions from steamship lines and airlines.

- ASA EDI Engine is an EDI translation product.

- Customers are located in the U.S., Canada, Puerto Rico, Bermuda, and the Virgin Islands.

The CIM Systems Group provides DEC VAX and UNIX-based software products and turnkey systems for manufacturing control and accounting applications and real-time bar code data collection systems for the manufacturing shop floor.

- The Opus™ Manufacturing System is a turnkey manufacturing control and accounting system for DEC MicroVAX and VAX computers and networks. This is a closed-loop system primarily for make-to-order manufacturers ranging in size from about $3 to $30 million in sales volume.

  - Modules include Estimating and Quoting, Job Shop Control, Bill of Materials, Inventory Control, Multi-Location Inventory, Production Control, MRP, Purchasing, General Ledger, Sales Order Entry/Invoicing, Sales Order Analysis, Sales Order Configurator, Payroll, Accounts Receivable, Accounts Payable, Prospect Tracking, and an ad-hoc report writer.

- The Opus ™II System is an online, closed-loop MRP II system for DEC MicroVAX and VAX computers and networks. The system is targeted primarily to make-to-stock manufacturers with over $25 million in sales volume.

  - Modules include Bill of Materials, Inventory Control, Master Production Scheduling, Material Requirements Planning, Purchasing, Production Control, and Sales Order Management.

- ASA also offers a set of financial applications that can be integrated with the Opus and Opus II systems. Applications include general ledger, accounts receivable, accounts payable, payroll, bank reconciliation, project tracking, and fixed assets.

ASA markets and supports the ShopKeeper™ family of bar code data collection applications for shop floor management. The software runs under the DEC VAX/VMS and Stratus VOS operating systems.

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- ShopKeeper collects data on the manufacturing shop floor using various manufacturers' bar code data collection devices.

- Data collection applications include time and attendance, labor reporting, work-in-process, inventory, and lot traceability.

- Wand 2S is a utility for data collection network management.

- ASA also provides clients with the system integration and support services needed to implement a bar code data collection system on the shop floor. Professional services provided by this group include designing and installing custom systems software applications on DEC hardware.

The Tire Systems Group provides turnkey systems to independent tire dealers, wholesalers, and retreaders. The group currently has over 800 customers in the U.S. and Canada.

- Tire Max 2000 is ASA's system for DEC VAX and UNIX systems and is targeted to independent tire dealers.

  - System functions include order processing, inventory control, bill of materials, purchasing, accounts receivable, accounts payable, sales analysis, and general ledger.

  - During 1990, bar code data collection and EDI capabilities were added.

  - System prices range from $15,000 to $250,000

ASA's product pricing is available on request. Prices vary according to modules selected and the hardware platform of the user.

Industry Markets

Approximately 47% of ASA's 1990 revenue was derived from customshouse brokers and freight forwarders, 28% from manufacturers, and 25% from tire distributors.

Geographic Markets

An estimated 90% of ASA's 1990 revenue was derived from the U.S. and 10% from Canada.

ASA's headquarters are located in Westboro (MA). Other U.S. offices are located as follows:

- International Trade and Transportation Systems Group: Salem (NH), New York (NY), Los Angeles and Burlingame (CA), and Savannah (GA)

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- CIM Systems Group: Westboro (MA)
- Tire Systems Group: Westboro (MA), Tucker (GA), and Redmond (WA)

Computer Hardware and Software

ASA has DEC VAX 3xxx and MicroVAX computers installed in Westboro (MA) and Salem (NH) in support of its research and development and customer support activities.

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ASA INTERNATIONAL LTD.
1700 West Park Drive
Westboro, MA 01581
(508) 898-2727

Alfred C. Angelone, Chairman and CEO
Christopher Crane, President
Robert L. Voelk, Executive Vice President
Public Corporation, OTC
Total Employees: 145
Total Revenue, Fiscal Year End
12/31/89: $23,769,000

The Company

ASA International Ltd. (ASA) currently develops, markets, and supports integrated systems in three vertical markets: international trade, manufacturing, and independent tire dealers. The company also provides systems for bar code data collection and utility software products for DEC VAX systems.

- The company's strategy includes acquiring financially troubled companies with strong products and customers and improving their performance within the first year of the acquisition. ASA has made six information services acquisitions since 1986.

ASA is currently organized into the following groups:

- The International Trade and Transportation Systems Group provides IBM AS/400 and DEC VAX-based software products and turnkey systems to customs house brokers, freight forwarders, and other international trade participants in the U.S. and Canada. The group was formed by acquisition in 1983 and expanded in 1990 with the acquisition of its largest competitor, Trade Data Services, Inc.

- The Manufacturing Systems Group provides DEC VAX and UNIX-based systems to discrete manufacturers in the U.S. and Canada.

- The Tire Systems Group provides DEC VAX and UNIX-based turnkey systems to tire retailers and distributors in the U.S. and Canada.

- The Data Collection Group provides DEC VAX-based systems to companies requiring bar code applications.

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- The ASA/Omtool Division provides utility software products for DEC VAX systems. The results of this division are reported in the International Trade and Transportation Systems Group.

ASA's 1989 revenue reached $23.8 million, a 23% increase over 1988 revenue of $19.3 million. Net income for 1989 was $520,000, compared to net losses of $518,000 for 1988. A five-year financial summary follows:

ASA INTERNATIONAL LTD.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1989	1988	1987	1986	1985
Revenue	$23,769	$19,281	$16,931	$14,894	$14,733
• Percent increase (decrease) from previous year	23%	14%	14%	1%	(2%)
Income (loss) before taxes	$575	$(795)	$264	$(308)	$(539)
• Percent increase (decrease) from previous year	172%	(401%)	186%	43%	N/A
• Gross margin	2%	N/A	2%	N/A	N/A
Net income (loss)	$520 (a)	$(518)	$223	$(540)	$(567)
• Percent increase (decrease) from previous year	200%	(332%)	141%	5%	(200%)
• Net margin	2%	N/A	1%	N/A	N/A
Earnings (loss) per share	$0.003	$(0.003)	$0.001	$(0.004)	$(0.006)
• Percent increase (decrease) from previous year	200%	(400%)	125%	33%	200%

(a) *Includes an extraordinary credit of $203,000 resulting from the benefit of net operating loss carryforward.*

Through 1989, ASA's business was segmented into four operating groups: Distribution, Manufacturing, Bar Code Data Collection, and International Trade. A three-year summary of source of revenue by operating group follows:

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ASA INTERNATIONAL, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1989		1988		1987	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Manufacturing	$9.3	39%	$8.2	42%	$4.5	27%
Distribution	5.2	22%	3.0	16%	2.1	12%
International Trade	(a) 8.3	35%	7.7	40%	10.4	61%
Bar Code Data Collection	0.9	4%	0.4	2%	(b)	(b)
TOTAL	**$23.7**	**100%**	**$19.3**	**100%**	**$17.0**	**100%**

(a) Includes Tire Systems revenue of about $2.9 million.

(b) For 1987, bar code data collection results are included with those of the Manufacturing Group.

ASA management attributes 1989 results to the following:

- Manufacturing Group revenue increased by approximately $627,000 and $541,000 for the micro- and VAX-based product lines, respectively.
- Distribution Group revenue resulted from increases of about $0.5 million from the former Business Information Technologies unit (acquired in January 1988) and a $1.7 million increase from the combined sales of the former Associated Software Consultants Organization unit (acquired in September 1988) and Snyder business (acquired in July 1989).
- Bar Code Data Collection Group revenues increased largely due to the sales generated by the VAX-based products first introduced in 1988.
- International Trade Group revenue increased primarily as a result of increased software sales from newly introduced or enhanced products.

Recent acquisitions made by ASA include the following:

- In March 1990, ASA announced an agreement to acquire Computers Northwest, Inc. of Bellevue (WA). Computers

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Northwest provides accounting and wholesale distribution software products to tire dealers and wholesale distributors. The acquisition is not yet final.

- In January 1990, ASA purchased the assets of Trade Data Services, Inc. of Savannah (GA) for about $1 million in cash and notes, plus contingent payments based on future performance.

  - Trade Data provides IBM-based turnkey systems to customs house brokers, freight fowarders, and other participants in international trade.

  - The operations of Trade Data have been merged into ASA's International Trade and Transportation Systems Group.

- In July 1989, ASA acquired Snyder Computing Systems, Inc. of Pittsburgh (PA) for approximately $384,000.

  - Snyder provides Altos and Texas Instruments-based turnkey systems to tire dealers and distributors. The company had 1988 revenue of $2.3 million.

  - The operations of Snyder have been merged into ASA's Tire Systems Group.

- In March 1989, ASA acquired Omtool Corporation of Salem (MA) for one million shares of ASA common stock valued at approximately $84,000.

  - Omtool specialized in the development and marketing of software utilities and developer tools, including cross-compilers. Omtool had approximately 10 employees at the time of the acquisition.

- During 1989, ASA acquired non-exclusive rights to Interactive Systems Inc.'s FASBE accounting system.

In January 1990, ASA sold its Micro-MRP, Inc. subsidiary to Kewill Systems PLC (U.K.) for $5.3 million.

- Micro-MRP develops and markets IBM and compatible microcomputer software products and turnkey systems for MRP II manufacturing and financial control applications.

- Micro-MRP had approximately 40 employees at the time of the divestiture and 1989 revenue of about $5.2 million.

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As of December 31, 1989, ASA had 145 full-time employees (excluding Micro-MRP), segmented as follows:

Marketing and sales	24
Customer support and training	45
Custom/product development and engineering	37
General and administrative	31
Executive officers	8
	145

ASA's primary competitors, by market area, include the following:

- International trade: Freight Data Systems, Ltd.
- Manufacturing systems: IBM, ASK Computer Systems, and Cincom
- Tire systems: Laventhol & Horwath, Madden Co., and Progressive
- Bar code data collection: Welch Allen, Epoch Data Systems, and Burr Brown

Key Products and Services

Virtually all of ASA's 1989 revenue was derived from turnkey systems and associated support services.

ASA currently has more than 1,500 clients.

The International Trade and Transportation Systems Group provides software products and turnkey systems that prepare documents required for compliance with U.S. Customs' regulations, track the movement of goods and paperwork, and perform invoicing and general accounting functions. The products are targeted to customs house brokers and freight forwarders.

- This group's clients process in excess of 35% of all shipments entering the U.S.
- The Custom House Documentation System prepares the forms required by a customs house broker to complete an import shipment, calculates import duties and service fees, prepares invoices, processes liquidations, and tracks missing documents.
  - Each system includes a data base of tariffs provided by U.S. Customs. ASA updates this data base as changes are made by the U.S. government.

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- The system is available for various DEC and IBM computers, based on the size and number of entries processed by a particular customs house broker. Pricing ranges from $30,000 to $500,000.

- A shipment tracing module facilitates tracking of import shipments. Importers may access their own information using the import connection to their broker's data base.

- ASA's Automated Broker Interface (ABI) system extracts entry summary data from ASA's Custom House Documentation System, then formats and electronically transmits this data to the U.S. Customs' computer, facilitating shipment release and document filing. Customs Automated Data Exchange System (CADEX) is the Canadian equivalent of ABI.

- ASA also provides export systems based on DEC hardware for air and ocean freight forwarders.

  - The Air Freight System processes information for each shipment of goods, including performing an automatic credit check of the shipper, validating shipment information, preparing bills of lading, routing shipments for multibranch companies, assigning air waybills, calculating freight charges, consolidating multiple shipments, calculating commissions, and tracking shipments.

  - The Ocean Export Documentation System performs similar functions, including tracking vessel departures and arrivals, preparation of commercial invoices and other required export documents, tracking of ocean freight commissions, and providing sales management information.

- ASA also provides accounting software for use with either its import or export systems or as a separate system for companies involved in international trade.

  - Applications supported include billing, tracking of accounts receivable and accounts payable, verification and matching of related transactions, general ledger, financial reporting, sales analysis, and tracking of brokerage commissions from steamship lines and airlines.

- EDI capabilities are also available.

- Customers are located in the U.S., Canada, Puerto Rico, Bermuda, and the Virgin Islands.

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The Manufacturing Systems Group provides DEC VAX and UNIX-based software products and turnkey systems for manufacturing control and accounting applications.

- The OPIS MRP II System is a closed-loop MRP II system for DEC MicroVAX and VAX computers and networks targeted primarily to make-to-stock manufacturers with over $25 million in sales volume.

  - Modules include Bill of Materials, Inventory Control, Master Production Scheduling, Material Requirements Planning, Purchasing, Production Control, and Sales Order Management.

- The OPIS Manufacturing System is a turnkey manufacturing control and accounting system for DEC MicroVAX and VAX computers and networks. This is a closed-loop system primarily for make-to-order manufacturers ranging in size from about $3 to $30 million in sales volume.

  - Modules include Estimating and Quoting, Job Shop Control, Bill of Materials, Inventory Control, Multi-Location Inventory, Production Control, MRP, Purchasing, General Ledger, Sales Order Entry/Invoicing, Sales Order Analysis, Sales Order Configurator, Payroll, Accounts Receivable, Accounts Payable, Prospect Tracking, and an ad-hoc report writer.

- ASA also offers a set of financial applications which can be integrated with the Job Shop and MRP II systems. Applications include general ledger, accounts receivable, accounts payable, payroll, bank reconciliation, project tracking, and fixed assets.

- Professional services provided by this group include designing and installing custom software applications on DEC hardware.

The Tire Systems Group, with 1989 revenue of $2.9 million and a loss of $158,000, provides turnkey systems to tire retailers and distributors. The group currently has over 900 active accounts in the U.S. and Canada.

- Tire Max 2000 is ASA's system for DEC VAX and UNIX systems targeted to independent tire dealers.

  - System functions include order processing, inventory control, bill of materials, purchase orders, accounts receivable, accounts payable, sales analysis, and general ledger.

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Bar code data collection software available from ASA includes the following:

- Shopkeeper supports shop floor management and automates collection of data for payroll, labor, production, and inventory.
- Wand 2S is a utility for data collection network management.

ASA's product pricing is available on request. Prices vary according to modules selected and the hardware platform of the user.

Industry Markets

Approximately 35% of ASA's 1989 revenue was derived from customs house brokers and freight forwarders, 39% from manufacturers, and 26% from distributors.

Geographic Markets

An estimated 90% of ASA's 1989 revenue was derived from the U.S. and 10% from Canada.

ASA's headquarters are located in Westboro (MA). Other U.S. offices are located as follows:

- International Trade and Transportation Systems Group: Salem (NH), New York (NY), Los Angeles and Burlingame (CA), and Savannah (GA).
- Manufacturing Systems Group: Westboro (MA).
- Tire Systems Group: Westboro (MA) and Tucker (CA).
- Data Collection Group: Westboro (MA).

ASA markets its products and services primarily through a direct sales force.

Computer Hardware and Software

ASA has DEC VAX 3XXX and MicroVAX computers installed in Westboro (MA) and Salem (NH) in support of its research and development and customer support activities.

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ASA INTERNATIONAL LTD.
1700 West Park Drive
Westboro, MA 01581
(508) 898-2727

Alfred C. Angelone, Chairman and CEO
Christopher Crane, President
Public Corporation, OTC
Total Employees: 147
Total Revenue, Fiscal Year End
12/31/87: $16,931,000

The Company

ASA International Ltd. (ASA) develops, markets, and supports application software products and integrated systems for three vertical markets: international trade, manufacturing, and distribution.

- The company's operations began in 1969 under the direction of Alfred C. Angeleone. ASA became an OEM for DEC in 1972 and an authorized DEC distributor in 1979.

- In June 1986, ASA completed an initial public offering of 11,500 units at $300 per unit, yielding net proceeds to the company of approximately $2.5 million. Each unit consisted of 4,000 shares of common stock, a $100 convertible note (convertible into 800 shares of common stock), and 1,000 redeemable common stock purchase warrants. Net proceeds from the warrant exchange offering were approximately $2.3 million.

ASA's 1987 revenue reached $16.9 million, a 14% increase over 1986 revenue of $14.9 million. Net income for 1987 was $223,000, compared to net losses of $540,437 for 1986. A five-year financial summary follows:

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ASA INTERNATIONAL LTD.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1987	1986	1985	1984	1983
Revenue	$16,931	$14,894	$14,733	$15,025	$13,042
• Percent increase (decrease) from previous year	14%	1%	(2%)	15%	N/A
Income (loss) before taxes	$264	$(308)	$(539)	N/A	N/A
• Percent increase (decrease) from previous year	186%	43%	N/A	N/A	N/A
Net income (loss)	$223 (a)	$(540)	$(567)	$567	$206
• Percent increase (decrease) from previous year	141%	5%	(200%)	175%	N/A
Earnings (loss) per share	$0.001	$(0.004)	$(0.006)	$0.006	$0.003
• Percent increase (decrease) from previous year	125%	33%	200%	100%	N/A

(a) Includes an extraordinary credit of $88,000 resulting from the benefit of net operating loss carryforward.

ASA management attributes revenue growth and net income to the strong performance of its traditional business and financial turnaround in the performance of the TEC business acquired in late 1986.

The company's strategy is to acquire financially troubled companies with strong products and customers and improve their performance within the first year of the acquisition. Acquisitions made by ASA include the following:

- In September 1988, ASA acquired Associated Software Consultants Organization, Inc. (ASCO) of Atlanta (GA) for $57,000 and the assumption of about $700,000 of net liabilities. The acquisition was accounted for as a purchase.

  - ASCO develops and markets DEC-based software products and turnkey systems for tire dealers.

  - The operations of ASCO are being merged into ASA's

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- The operations of ASCO are being merged into ASA's Distribution Systems Group.

- In January 1988, ASA acquired Business Information Technologies, Inc. (BIT) of Burlington (VT) for approximately 2.4 million shares of ASA common stock. The acquisition was accounted for as a purchase with a total cost of about $263,000.

  - BIT develops and markets DEC-based software products and turnkey systems primarily to distributors. Sales in 1987 were approximately $770,000.

  - The operations of BIT have been merged into ASA's Distribution Systems Group.

- In November 1987, ASA acquired Micro-MRP, Inc. of Foster City (CA) for approximately 14.8 million shares of ASA common stock. The acquistion was accounted for as a purchase with a total cost of about $1.5 million.

  - Micro-MRP, with over 1,700 clients, develops and markets IBM and compatible microcomputer software products and turnkey systems for MRP II manufacturing and financial control applications.

  - Micro-MRP had approximately 25 employees at the time of the acquisition and contributed about $539,000 to ASA's 1987 revenue and $86,000 to income before taxes for the period from November 1987 through December 31, 1987.

  - Micro-MRP now operates as a wholly owned subsidiary of ASA within the Manufacturing Systems Group.

- On December 31, 1986 ASA acquired TEC Computer Systems, Inc. of Newton (MA) for approximately 10.5 million shares of ASA common stock. The acquisition was accounted for as a pooling of interests.

  - TEC develops and markets DEC-based application software products and turnkey systems primarily to manufacturing companies. TEC had revenue of approximately $3.5 million and net losses of $752,000 for 1986. The losses resulted primarily from development costs associated with a new MRP II closed-loop product (now marketed by ASA as MAX MRP™).

  - Effective December 31, 1987, the operations of TEC were merged with ASA Incorporated, a wholly owned subsidiary

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of ASA. Its products are offered throught ASA's Manufacturing Systems Group.

- In May 1986, ASA purchased a shop floor bar code data collection system for IBM Series 1 computers from Winchester Savings Bank, which acquired the product through a foreclosure proceeding.

ASA is currently organized into the following groups:

- The International Trade Group provides software products and turnkey systems to customs house brokers, freight forwarders, and other international trade participants.

- The Manufacturing Systems Group provides software products and turnkey systems for MRP II, job shop, and bar code data collection applications with order processing, accounting, and financial reporting capabilities.

- The Distribution Systems Group provides turnkey systems, processing services, and system development professional services for order processing, inventory control, and accounting applications.

Agreements/announcements made by ASA include the following:

- In 1987, ASA reached an agreement with Olivetti Canada designating Olivetti as the exclusive supplier of ASA's job shop and distribution products in Canada. ASA products are listed in the Olivetti price book and are marketed by its direct sales force. ASA provides implementation, training, and support. The software will also be converted to run on Olivetti's UNIX-based minicomputers. Olivetti is participating in the funding of this project.

- During 1987, ASA reached an agreement with DEC to convert ASA's bar code collection system from the IBM Series 1 to the DEC VAX family of computers. The project is jointly funded by ASA and DEC.

Revenue for the six months ending June 30, 1988 was $8.8 million, compared to nearly $9 million for the same period in 1987. Net losses were $633,639, compared to net income of $646,559 for the same period a year ago.

- The decrease in revenue resulted from a decline of approximately $1.9 million in sales in the International Trade

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Systems Division and a sales decrease of about $1.7 million in two product lines within the Manufacturing Systems Group.

- The decline in revenue was somewhat offset by sales of nearly $3.4 million for Micro-MRP, Inc. and the Distribution Systems Group.

- Net losses were attributed to the decrease in sales (previously described) and a 40% increase in selling, general, and administrative expenses resulting primarily from acquired businesses (Micro-MRP and BIT) for which there were no comparable amounts in 1987. Results also include $120,000 in nonrecurring relocation expenses.

As of December 31, 1987, ASA had 147 full-time employees, segmented as follows:

Marketing and sales	29
Customer support and training	42
Custom/product development and engineering	35
General and administrative	34
Executive officers	7
	147

As of September 30, 1988 the company had 176 employees, including ASCO employees.

ASA's primary competitors, by market area, include the following:

- International trade: Cyber Data Systems, Inc., McDonnell Douglas Information Systems Company, B & F Computers, Inc., and Freight Data Systems, Ltd.

- Distribution management: Ultimate Data Systems, Profit 21, and Distribution Industry Management Information Systems (DIMIS).

- Manufacturing systems: IBM and ASK Computer Systems.

Key Products and Services

ASA's 1987 source of revenue by operating group follows:

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OPERATING GROUP	REVENUE ($ millions)	PERCENT OF TOTAL
International Trade Systems	$10.4	61%
Manufacturing Systems	4.5	27%
Distribution Systems	2.1	12%
TOTAL	**$17.0**	**100%**

Approximately 62% of ASA's 1987 revenue was derived from turnkey systems and 38% from application software products and custom software development professional services.

ASA currently has more than 2,500 clients.

The International Trade Systems Group provides software products and turnkey systems that generate documents required for compliance with U.S. Customs' regulations, track the movement of goods and paperwork, and perform invoicing and general accounting functions. The products are targeted to customs house brokers and freight forwarders.

- The Custom House Documentation System is a turnkey system based on DEC computers.
  - The system prepares the forms required by a customs house broker to complete an import shipment, calculates import duties and service fees, prepares invoices, processes liquidations, and tracks missing documents.
  - Each system includes a data base of tariffs provided by U.S. Customs. ASA updates this data base as changes are made by the U.S. government.
  - The system is available for various DEC computers, based on the size and number of entries processed by a particular customs house broker.
  - There are currently 175 Custom House Documentation Systems installed.
- ASA's Automated Broker Interface (ABI) system extracts entry summary data from ASA's Custom House Documentation System, then formats and electronically transmits this data to

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the U.S. Customs' computer, facilitating shipment release and document filing.

- The customs house broker receives from U.S. Customs, through the same communications channels, a determination of the accuracy of the entry transactions submitted. The broker also receives responses to previous inquiries and administrative messages from U.S. Customs in a mode resembling electronic mail.

- The system also provides the broker with current tariff changes and quick verification of entries.

- There are currently over 100 ASA clients using ABI.

- The ABI filing program is the first phase of U.S. Customs' Automated Commercial System (ACS), a computer-telecommunications system linking international trade participants to provide faster cargo release, faster review of entries, immediate liquidation of entries not selected for review, and reduction or elimination of much of the paperwork associated with imports. ASA plans to develop additional software to complement future U.S. Customs' electronic automation programs as they become available.

• ASA also provides export systems based on DEC hardware for air and ocean freight forwarders.

- The Air Freight System processes information for each shipment of goods, including performing an automatic credit check of the shipper, validating shipment information, preparing bills of lading, routing shipments for multibranch companies, assigning air waybills, calculating freight charges, consolidating multiple shipments, calculating commissions, and tracking shipments. There are currently 10 installations.

- The Ocean Export Documentation System performs similar function, including tracking vessel departures and arrivals, preparation of commercial invoices and other required export documents, tracking of ocean freight commissions, and providing sales management information. There are currently 23 systems installed.

• ASA also provides accounting software for use with either its import or export systems or as a separate system for companies involved in international trade.

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- Applications supported include billing, tracking of accounts receivable and accounts payable, verification and matching of related transactions, general ledger, financial reporting, sales analysis, and tracking of brokerage commissions from steamship lines and airlines.

- There are 160 systems installed.

- During 1987, ASA received a contract from Blaiklock, a large Canadian broker, to develop a Canadian version of its international trade products. ASA plans to market these products in Canada.

The Manufacturing Systems Group provides the MAX family of software products and turnkey systems to manufacturing companies. There are currently over 2,100 manufacturers using ASA products.

- Micro-MAX MRP™ is a MRP II manufacturing and financial control software product for IBM and compatible computers and networks. This closed-loop system is targeted primarily to small-to-medium make-to-stock (repetitive) manufacturers.

  - Modules are available for Bill of Materials, Inventory Control, Master Scheduling, MRP, Purchasing Control, Shop Floor Control, Costing, Management Performance Reporting,General Ledger, Order Entry, Accounts Receivable, Accounts Payable, and ad-hoc report writing. A micro-to-mainframe interface is also available.

  - There are currently over 1,900 systems installed.

- Micro-MAX Job Shop™, introduced in the third quarter of 1988, is a manufacturing and financial control software product for IBM and compatible computers and networks. This closed-loop system is targeted primarily to small make-to-order (job shop) manufacturers.

  - Modules are available for Job Shop, Estimating and Quoting, Bill of Materials, Inventory Control, Purchasing Control, MRP, Sales Order Entry, Sales Order Analysis, Sales Order Configurator, General Ledger, Accounts Payable, Accounts Receivable, Payroll, and ad-hoc report writing.

- MAX MRP™ is a MRP II manufacturing and financial control software product for DEC MicroVAX and VAX computers and

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networks. This closed-loop system is targeted primarily to medium-to-large make-to-stock manufacturers.

- Modules include Bill of Materials, Inventory Control, Master Production Scheduling, MRP, Purchasing, Production Control, Sales Order Management, General Ledger, Accounts Receivable, Accounts Payable, System Cost Accounting, Project Cost, Fixed Asset, Payroll, and Bank Reconciliation.

- There are nine systems installed.

- MAX Job Shop™ is a manufacturing and financial control system for DEC MicroVAX and VAX computers and networks. This is a closed-loop system primarily for large make-to-order manufactuers.

  - Modules include Estimating and Quoting, Job Shop Control, Bill of Materials, Inventory Control, Multi-Location Inventory, Production Control, MRP, Purchasing, General Ledger, Sales Order Entry/Invoicing, Sales Order Analysis, Sales Order Configuratior, Payroll, Accounts Receivable, Accounts Payable, Prospect Tracking, and an ad-hoc report writer.

  - There are currently 100 installations of MAX Job Shop.

- MAX Bar Code™, introduced in the first quarter of 1988, is a bar code data collection system for DEC VAX computers. This product will eventually interface with ASA's international trade and distribution products.

The Distribution Systems Group provides software products, processing services, and professional services for order processing, inventory control, and accounting applications. ASA supports more than 600 distributors throughout the U.S.

- The Tire Profit System is ASA's system for DEC VAX/VMS, PDP-11/RSTS, and CTS 300 systems that is targeted to tire distributors. The product was acquired with ASCO in September 1988.

  - System functions include order processing, inventory control, bill of materials, purchase orders, accounts receivable, accounts payable, sales analysis, and general ledger.

  - There are currently over 500 installations.

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- As a result of the acquisition of BIT ASA also provides the Distribution Expert, a point of sales and serial number tracking system based on DEC VAX and MicroVAX computers. The product is targeted to electrical, plumbing, and restaurant supply companies. There are currently 40 companies using the system.

- Professional services provided by this group include designing and installing custom software applications on DEC hardware.

ASA's product pricing is available on request. Prices vary according to modules selected and the hardware platform of the user.

Industry Markets

Approximately 61% of ASA's 1987 revenue was derived from customs house brokers and freight forwarders, 27% from manufacturers, and 12% from distributors.

Geographic Markets

Virtually 100% of ASA's 1987 revenue was derived from the U.S.

The company has expanded the sale of its products to Canada.

ASA's headquarters are located in Westboro (MA). Other U.S. offices are located as follows:

- International Trade Systems Group: Salem (NH), New York (NY), and Foster City (CA).

- Manufacturing Systems Group: Foster City (CA).

- Distribution Systems Group: Salem (NH) and Burlington (VT).

ASA markets its products and services primarily through a direct sales force.

Olivetti Canada Limited is the exclusive supplier of ASA's job shop and distribution software products in Canada.

Computer Hardware and Software

ASA has DEC VAX 3XXX and MicroVAX computers installed in Westboro (MA) and Salem (NH) in support of its research and development and customer support activities.

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COMPANY
PROFILE

ASA LEGAL SYSTEMS COMPANY INC.
(formerly Quorum Systems)
960-C Harvest Drive
Union Meeting Corporate Center
Blue Bell, PA 19422
Phone: (215) 542-2100
Fax: (215) 542-2149

President:	William E. Baker
Status:	Subsidiary
Parent:	ASA International
Total Employees:	200
Total Revenue:	$31,448,000
Fiscal Year End:	12/31/92

Key Points

- ASA Legal Systems provides processing services, software products, and turnkey systems to law firms and corporate legal departments for financial management, accounting, and word processing.
- ASA Legal Systems operated as a division of CDC (as "Quorum Systems") until June 1991 when it was acquired by ASA International and renamed ASA Legal Systems Company Inc.
- The company is an Authorized Distributor for DEC, an industry remarketer for IBM, and an HP reseller.
- ASA Legal Systems introduced an open systems software application in 1991. This product has positioned the company's product line to run on non-proprietary operating systems and multiple hardware platforms, including the full range of UNIX- and Intel-based personal computers,

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Company Description

ASA Legal Systems provides processing services, software products, and turnkey systems to over 200 law firms and corporate legal departments for financial management, accounting, and word processing. The company is an Authorized Distributor for DEC, an industry remarketer for IBM, and an HP reseller.

ASA Legal Systems was founded in 1969 as Compute-R-Systems and was purchased by Control Data Corporation (CDC) in late 1984. ASA Legal Systems operated as a division of CDC (as "Quorum Systems") until June 1991 when it was acquired by ASA International and renamed ASA Legal Systems Company Inc.

Operations/ Structure

ASA Legal Systems is a subsidiary of ASA International located in Framington, Massachusetts.

Strategy

ASA's Legal Advocate™, introduced in February 1991, is the company's open systems software designed to run on non-proprietary operating systems and multiple hardware platforms, including the full range of UNIX- and Intel-based personal computers, including IBM, Hewlett-Packard and DEC computers.

The increase in ASA Legal System's business has been primarily realized in this product line while batch processing services client base has steadily declined.

Key Products and Services

ASA Legal Systems offers the following products and services for accounting and financial management:

Outsourcing Services

- ASA's Legal Link is a batch processing service for timekeeping and billing information management. There are currently approximately 50 clients.

Software Products

- Legal Advocate™, introduced in February 1991, is the company's open systems software designed to run on non-proprietary operating systems and multiple hardware platforms, including the full range of UNIX- and Intel-based personal computers, including IBM, Hewlett-Packard and DEC computers.

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- Legal Advocate addresses the requirements of the average law firm to generate reports, bills, and other documents formatted and tailored to the firm's specific needs.

- In addition to report generation, applications supported include timekeeping, client accounting, billing, accounts receivable, transfers and adjustments, and client and matter inquiry.

- Legal Advocate is priced from $9,000 to $56,000 and there are currently 20 installations.

· Legal Partner is an advanced accounting and financial management system for mid- to large-sized law firms. This system uses the INGRES relational data base management system.

- Legal Partner is designed to help medium and large law firms manage day-to-day billing and overall financial performance.

- Applications supported include client accounting, general ledger, accounts payable, conflict of interest, docket control, and legal records management.

- Legal Partner ranges in price from $70,000 to $500,000 and there are currently 28 installations.

Legal Partner also includes the following optional modules: Executive Information System, Imaging, Marketing, Trust Accounting, and Split Party Billing.

Professional Services

Professional services provided include software modifications, disaster recovery, education, system capacity planning/tuning, maintenance, and consulting.

Competition

ASA Legal Systems' competitors include The Minicomputer Company, CMS/DATA, CompuTrac, Elite, and Juris.

Industry Markets

ASA Legal Systems' clients include large and mid-sized law firms and corporate legal departments.

Geographic Markets

Approximately 98% of ASA Legal Systems' 1992 revenue was derived from the U.S. and 2% from Canada.

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ASHTON-TATE CORPORATION
20101 Hamilton Avenue
Torrance, CA 90509-9972
(213) 329-8000

Carmelo J. Santoro, Chairman
William P. Lyons, President and COO
Public Corporation, OTC
Total Employees: 1,430
Total Revenue, Fiscal Year End
12/31/89: $265,319,000

The Company

Ashton-Tate Corporation, incorporated in 1980 as Software Plus, Inc., develops, markets, and supports microcomputer software products in five major areas: data base management, word processing, business graphics, integrated decision support, and spreadsheets.

- During 1983, the company changed its name to Ashton-Tate and in November 1983 made an initial public offering of 1.7 million shares of its common stock.
- During April 1986, Ashton-Tate made a second public offering of 1.3 million shares of its common stock.
- During 1989, Ashton-Tate changed its financial reporting year end from January 31 to December 31. The company also reorganized its operations around two product divisions (data base and applications), a professional services division (providing software support, consulting, and training), and three geographic sales divisions (U.S., International, and Europe).

Ashton-Tate's calendar 1989 revenue was $265.3 million and net losses were $28.6 million. In the five-year summary that follows, 1989 results are for the period January 1, 1989 through December 31, 1989. Net revenue and net income included for the month of January 1989 (which had been previously reported in the fiscal year ending January 31, 1989) totaled $57.8 million and $20.7 million, respectively.

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ASHTON-TATE CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	12/89	1/89	1/88	1/87	1/86
Revenue	$265.3	$307.3	$267.3	$210.8	$121.6
• Percent increase (decrease) from previous year	*	15%	27%	73%	48%
Income (loss) before taxes	$(31.6)	$73.5	$77.0	$58.2	$30.7
• Percent increase (decrease) from previous year	*	(5%)	32%	90%	147%
• Gross margin	*	24%	29%	28%	25%
Net income (loss)	$(28.6)	$47.8	$43.1	$30.1	$16.6
• Percent increase (decrease) from previous year	*	11%	43%	82%	122%
• Net margin	*	16%	16%	14%	14%
Earnings (loss) per share	$(1.09)	$1.83	$1.70	$1.26	$0.85
• Percent increase (decrease) from previous year	*	8%	35%	48%	113%

* *Not meaningful*

Ashton-Tate management attributes calendar 1989 results to the following:

- The decrease in revenues resulted primarily from the company's program to substantially reduce distribution channel inventories after consumer acceptance of dBASE IV version 1.0 did not meet Ashton-Tate forecasts. The company is currently developing a new version of dBASE IV; however, the release date has not yet been announced.

  - Ashton-Tate believes that U.S. distribution channel inventories were reduced by more than $50 million between January 31 and December 31 1989 and expects efforts to further reduce channel inventories to continue into 1990.

  - While U.S. revenues declined, international revenues increased about 24% over fiscal 1989 levels, reflecting

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increased sales of data base management and multifunction products.

- Total operating costs and expenses were 114% of revenue in calendar 1989, compared to 78% of revenue for fiscal 1989.

To date, each of the initial products in Ashton-Tate's product families has been originally developed by an independent company from which Ashton-Tate substantially acquired the product rights. The company's internal development group is primarily in charge of supporting and enhancing existing products and extending product lines, both functionally and to new microcomputers.

- Research and development expenditures were approximately $68.7 million (26% of revenue) in calendar 1989, $52.9 million (17% of revenue) in fiscal 1989, and $35.5 million (13% of revenue) in fiscal 1988.

Revenue for the three months ending March 31, 1990 was $57 million, a 37% decrease from $89.8 million for the same period in 1989. Net losses for the period were $979,000, compared with net income of $11.5 million for the same period a year ago. Results were attributed to the same factors that affected 1989 financials.

Acquisitions made by Ashton-Tate include the following:

- In April 1988, Ashton-Tate announced an agreement with Interbase Software Corporation (Tyngsborough, MA) to jointly develop technology components for Ashton-Tate's next generation of workstation data base products running under OS/2 Presentation Manager and other operating system platforms such as VMS, UNIX, and Macintosh.

  - Ashton-Tate has exclusive marketing rights to the jointly-developed technology, which it will co-own with Interbase.

  - As part of the agreement, Interbase is a majority-owned subsidiary of Ashton-Tate.

- In January 1988, Ashton-Tate acquired Ann Arbor Softworks, Inc. of Newbury Park (CA) in order to expand into the Apple Macintosh word processor and graphics market. Terms of the purchase were not disclosed. Products acquired with Ann Arbor Softworks include FullWrite Professional and FullPaint.

- During 1987, Ashton-Tate acquired the remaining interests in Nippon Ashton-Tate, a joint venture it had established with

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Japan Systems Engineering, Inc. to distribute the company's products in Japan.

As of March 1, 1990, Ashton-Tate had 1,430 full-time employees, segmented as follows:

Domestic marketing/sales/support	495
Administration and finance	142
Product development	213
Production	102
International operations and sales	478
	1,430

Ashton-Tate's primary competitors include Lotus Development, Microsoft, and WordPerfect. Other companies, including Oracle, Informix, and Ingres, may develop and market, or are marketing certain software products competitive with the products offered by Ashton-Tate.

Key Products and Services

Approximately 98% of Ashton-Tate's calendar 1989 revenue was derived from microcomputer software products and 2% from books and periodical publications.

A three-year summary of source of revenue by product line is estimated as follows:

ASHTON-TATE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	12/89		1/89		1/88	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Data base management	$196.3	74%	$215.1	70%	$171.1	64%
Word processing	34.5	13%	46.1	15%	53.4	20%
Multifunction	26.5	10%	27.7	9%	21.4	8%
Business graphics	2.7	1%	9.2	3%	13.4	5%
Other	5.3	2%	9.2	3%	8.0	3%
TOTAL	**$265.3**	**100%**	**$307.3**	**100%**	**$267.3**	**100%**

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Ashton-Tate currently offers more than 20 microcomputer software products. In addition to data base management systems, the company offers word processing, spreadsheet, presentation graphics, and integrated decision support software products for the DOS, OS/2, and Macintosh microcomputer operating systems. Current product offerings are shown in the exhibit.

- The company's principal software products run on IBM PC, PC/XT, PC/AT, PS/2, and compatible microcomputers.

- dBASE Mac, FullWrite Professional, FullPaint, and Full Impact are designed to operate on the Apple Macintosh.

Recent significant announcements made by Ashton-Tate include the following:

- MultiMate version 4.0 began shipping on schedule in December 1989. The new version of the DOS-based word processor includes integrated electronic mail, a grammar checker, transparent file conversion, a DOS shell feature to run other software, and features targeted to the legal market, including redlining.

- Enhancements have been introduced to Ashton-Tate's technical support operation, including: free unlimited telephone support; new fee-based support plans under the Ashton-Tate ASSIST program; toll-free access to the Ashton-Tate Bulletin Board System (BBS) via the CompuServe telecommunications network; and Auto-Tate, a toll-free automated attendant answering commonly-asked technical support questions.

MASTER GRAPHICS Overnight™, introduced in December 1987, is a service for MASTER GRAPHICS users that allows them to transmit files by telephone to a central location where they are converted into slides and returned to the user via overnight courier. A similar service is available for APPLAUSE files.

Effective August 1989, Ashton-Tate discontinued publishing books and periodicals.

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EXHIBIT

ASHTON-TATE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	INITIAL SHIPMENT DATE	SUGGESTED RETAIL PRICE
Data Base Management Products			
- dBASE IV	Successor to dBASE III PLUS for OS/2, MS/DOS, PC/DOS	10/88	$795
- DBASE IV LAN Pack	Permits five additional users on a LAN to access dBASE IV	1988	$995
- dBASE III PLUS™	Single and multiuser data base management system	12/85	$695
- dBASE III PLUS LAN Pack	Permits five additional users on a LAN to access dBASE III PLUS	1/86	$995
- dBASE II®	Ashton-Tate's initial data base management system	1/81	$495
- dBASE Mac	Relational data base management system for the Macintosh	9/87	$495
- dBASE Mac RunTime	Execute-only version of dBASE Mac	4/88	$300 (upgrade) $795 (with dBASE Mac)
- dBASE DIRECT/36™	Allows dBASE III PLUS users to access IBM System/36-resident data	10/87	$1,695
- dBASE DIRECT/38™	Allows dBASE III PLUS users to access IBM System/38-resident data	5/88	$2,995
- dBASE DIRECT for 3270	Allows dBASE III PLUS users to access IBM 3270-resident data	2/90	$595
- dBASE DIRECT for AS/400	Allows dBASE PLUS users to access IBM AS/400-resident data	2/90	$2,495 - $4,995
- RapidFile™	File manager	1/87	$295
- SQL Server	Data base server	1989	$2,495
Presentation Products			
- MultiMate Version 4.0	DOS-based word processor	12/89	$565
- MultiMate Advantage II™	DOS-based word processor	4/87	$565
- MultiMate Advantage II LAN	LAN version of MultiMate Advantage II, supporting six workstations	9/87	$1,495
- MultiMate 3.3 Series	Word processor for 8-bit microcomputers	6/85	$495
- FullWrite Professional™	Combines word processing, desktop publishing, and graphics	(a)	$395
- Byline™	Desktop publishing product	9/87	$295
- FullPaint®	Graphics product for the Macintosh	(a)	$100
			(continued)

(a) Acquired in January 1988 with Ann Arbor Softworks.

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EXHIBIT
(continued)

ASHTON-TATE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	INITIAL SHIPMENT DATE	SUGGESTED RETAIL PRICE
Presentation Products (*continued*)			
- Control Room	Utility software	3/90	$129
- APPLAUSE II	Graphics product combining DRAW APPLAUSE with MASTER GRAPHICS products	2/90	$495
MASTER GRAPHICS™ Products			
- CHART-MASTER®	Creates bar, area, pie, and line charts	10/81	$375
- SIGN-MASTER®	Creates word charts, tables, and signs	10/83	$245
- DIAGRAM-MASTER®	Creates organization and Gantt charts and custom diagrams	7/85	$345
- PRESENTATION PACK	Incorporates CHART-MASTER, SIGN-MASTER, and DIAGRAM-MASTER	1985	$495
- MAP-MASTER®	Creates data-driven maps	3/86	$395
Multifunction Products			
- Framework III™	Successor to Framework II with optional electronic mail	7/88	$695
- Framework III LAN	Five-user LAN version	10/88	$995
- Framework III RunTime	Execute-only version	N/A	N/A
- Framework II™	Provides spreadsheet and word processing capabilities with data base, graphics, outlining, and communications modules	10/85	$695
- Full Impact™	Multifunction spreadsheet for the Macintosh	7/88	$395

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Industry Markets

Ashton-Tate derives over 50% of its revenue from sales to U.S./Canadian (UCAN operations) distributors and dealers. The remainder is derived from OEMs, VARs, and international subsidiaries, dealers, distributors, and export sales.

A three-year summary of source of revenue by distribution channel follows:

ASHTON-TATE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY

	FISCAL YEAR		
ITEM	12/89	1/89	1/88
UCAN operations			
• Distributors	23%	22%	27%
• Dealers	8%	28%	30%
• OEMs	1%	3%	7%
• VARs	--	--	1%
• Direct sales	11%	8%	5%
	43%	61%	70%
International operations (includes export sales)	57%	39%	30%
TOTAL	**100%**	**100%**	**100%**

Distributors market Ashton-Tate's products to authorized dealers and provide product support, merchandising aids, and other support services. Ashton-Tate's two nonexclusive distributors in the U.S. are Softsel Computer Products and Ingram Software Distribution Services (which includes Micro D).

Ashton-Tate's dealers are primarily microcomputer hardware and software retail stores. The company's products are sold through more than 5,000 retail outlets, including national chains such as Businessland, ComputerLand, Corporate Software, Egghead Discount Software, and Government Technology Services.

The company targets its OEM sales to microcomputer hardware manufacturers and seeks to establish strategic supplier relationships. Ashton-Tate has royalty agreements covering sales of certain of its products with various OEMs, including Tandy, Wang, Zenith, Hewlett-Packard, and AT&T.

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Direct sales of certain products, primarily publications and product upgrades, are made to educational institutions and other end users.

Geographic Markets

Approximately 43% of Ashton-Tate's calendar 1989 revenue was derived from the U.S. and Canada, 40% from Europe (including the U.K.), 8% from the Far East (including Japan and Hong Kong), and 9% from U.S. export sales.

A three-year financial summary by geographic market follows:

ASHTON-TATE CORPORATION
THREE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR					
	12/89		1/89		1/88	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Revenue						
• U.S.	$115.0	43%	$185.9	61%	$186.3	70%
• Europe	106.3	40%	78.4	25%	57.4	21%
• Far East	20.9	8%	15.3	5%	2.2	1%
• U.S. exports	23.1	9%	27.7	9%	21.4	8%
Total	**$265.3**	**100%**	**$307.3**	**100%**	**$267.3**	**100%**
Operating income						
• U.S.	$(48.3)	*	$41.7	62%	$53.9	74%
• Europe	16.1	*	17.7	26%	14.4	20%
• Far East	4.1	*	2.3	3%	(1.5)	(2%)
• U.S. exports	(9.7)	*	6.2	9%	6.1	8%
Total	**$(37.8)**	*****	**$67.9**	**100%**	**$72.9**	**100%**

* *Not meaningful*

Ashton-Tate products are now available in more than 20 languages, in more than 50 countries, on six continents.

Ashton-Tate has U.S. regional sales offices in Chicago, Dallas, Mountain View and Torrance (CA), New York, and Washington, D.C., and Canadian offices in Vancouver and Toronto.

Development centers are located in Glendale, San Jose, Torrance, and Walnut Creek (CA) and East Hartford (CT).

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In addition to its Canadian operations, Ashton-Tate currently operates foreign subsidiaries located in the U.K., the Netherlands, West Germany, Spain, Italy, Venezuela, Australia, Singapore, Japan, Hong Kong, New Zealand, Malaysia, and Canada, each with field service and technical personnel to support dealer and distributor sales in those and neighboring countries.

Ashton-Tate also has foreign distributors and dealers that service the principal worldwide markets for its products. The company has OEM agreements with several international companies, including IBM in Europe and the Far East.

Computer Hardware

Ashton-Tate maintains various microcomputers at its offices for research and development and customer support.

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ASHTON-TATE CORPORATION
20101 Hamilton Avenue
Torrance, CA 90502
(213) 329-8000

Edward M. Esber, Jr., Chairman and CEO
Luther J. Nussbaum, President and COO
Public Corporation, OTC
Total Employees: 1,250 (3/88)
Total Revenue, Fiscal Year End
1/31/88: $267,328,000

The Company

Ashton-Tate Corporation, incorporated in 1980 as Software Plus, Inc., develops, markets, and supports microcomputer software products in six major areas: data base management, word processing, business graphics, integrated decision support, spreadsheets, and desktop publishing.

- During 1983 the company changed its name to Ashton-Tate and in November 1983 made an initial public offering of 1.7 million shares of its common stock.

- During April 1986 Ashton-Tate made a second public offering of 1.3 million shares of its common stock.

Fiscal 1988 revenue reached $267.3 million, a 27% increase over fiscal 1987 revenue of $210.8 million. Net income rose 43%, from $30.1 million in fiscal 1987 to $43.1 million in fiscal 1988. A five-year financial summary follows:

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ASHTON-TATE CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1/88	1/87	1/86	1/85	1/84
Revenue	$267,328	$210,799	$121,571	$82,281	$42,994
• Percent increase from previous year	27%	73%	48%	91%	138%
Income before taxes	$76,976	$58,161	$30,679	$12,427	$9,904
• Percent increase from previous year	32%	90%	147%	25%	414%
Net income	$43,076	$30,100	$16,567	$7,463	$5,270
• Percent increase from previous year	43%	82%	122%	42%	392%
Earnings per share	$1.70	$1.26	$0.85	$0.40	$0.34
• Percent increase from previous year	35%	48%	113%	18%	325%

The increases in Ashton-Tate's revenues during the past three years have resulted primarily from the additions or introductions of products during those years (primarily those acquired through the acquisitions of MultiMate in December 1985 and Decision Resources in September 1986) and the continued increased unit shipments of the company's data base management and other products. Increases in export and foreign sales and favorable exchange rate fluctuations also contributed significantly to increased revenues.

- The fiscal 1988 increase in revenue was primarily due to increased sales of dBASE III PLUS and word processing products, increases in export and foreign sales, favorable exchange rate fluctuations, and the inclusion of graphics products (acquired with Decision Resources) for the full year compared with only four months in fiscal 1987.

In January 1988 Ashton-Tate acquired Ann Arbor Softworks, Inc. of Newbury Park (CA) in order to expand into the Apple Macintosh word processor and graphics market. Terms of the purchase were not disclosed. Products acquired with Ann Arbor Softworks include FullWrite Professional and FullPaint.

During 1987, Ashton-Tate Acquired the remaining interests in Nippon Ashton-Tate, a joint venture it had established with Japan

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Systems Engineering, Inc. to distribute the company's products in Japan.

To date, each of the initial products in Ashton-Tate's product families has been originally developed by an independent company from which Ashton-Tate substantially acquired the product rights. The company's internal development group is primarily in charge of supporting and enhancing existing products and extending product lines, both functionally and to new microcomputers.

- Research and development expenditures were approximately $28 million (11% of revenue) in fiscal 1988, $19.5 million (9% of revenue) in fiscal 1987, and $11.3 million (9% of revenue) in fiscal 1986.

- The company also capitalized software development costs of $3 million and $1.9 million during fiscal 1988 and fiscal 1987, respectively.

Revenue for the six months ending July 31, 1988 was $144.3 million, a 17% increase over $123.8 million for the same period in 1987. Net income for the period rose 17%, from $19.2 million to nearly $22.6 million.

- Ashton-Tate management attributes the increase in revenue primarily to the introduction of new products, including FullWrite Professional, the word processing product for the Apple Macintosh that the company acquired with Ann Arbor Softworks, Framework III, Full Impact, and dBASE DIRECT/38.

As of March 1, 1988, Ashton-Tate had 1,250 full-time employees, segmented as follows:

Domestic marketing/sales/support	394
Administration and finance	140
Product development	351
Production	105
International operations and sales	241
Book and periodical publishing	19
	1,250

Ashton-Tate's primary competitors include Lotus Development and Microsoft. Other companies, including Oracle and Cullinet, may develop and market, or are marketing certain software products competitive with the products offered by Ashton-Tate.

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Key Products and Services

Ninety-seven percent of Ashton-Tate's fiscal 1988 revenue was derived from microcomputer software products and 3% from books and periodical publications.

A three-year summary of source of revenue by product line is estimated as follows:

ASHTON-TATE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1/88		1/87		1/86	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Data base management	$171.1	64%	$132.8	63%	$96.1	79%
Word processing(a)	53.4	20%	40.1	19%	6.1	5%
Multifunction	21.4	8%	23.2	11%	15.8	13%
Business graphics (a)	13.4	5%	6.3	3%	--	--
Other	8.0	3%	8.4	4%	3.6	3%
TOTAL	**$267.3**	**100%**	**$210.8**	**100%**	**$121.6**	**100%**

(a) Revenue from word processing and business graphics products are included in Ashton-Tate's net revenues commencing with the fiscal 1986 fourth quarter acquisition of MultiMate and the fiscal 1987 third quarter acquisition of Decision Resources, respectively.

Ashton-Tate currently offers microcomputer software products in six major product areas: data base management systems, word processing, business graphics, integrated decision support, spreadsheets, and desktop publishing. Current product offerings are shown in the exhibit.

- The company's principal software products run on IBM PC, PC/XT, PC/AT, PS/2, and compatible microcomputers.
- dBASE Mac, FullWrite Professional, FullPaint, and Full Impact are designed to operate on the Apple Macintosh.

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EXHIBIT

ASHTON-TATE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	INITIAL SHIPMENT DATE	SUGGESTED RETAIL PRICE
Data Base Management Products			
- dBASE IV	Successor to dBASE III PLUS for OS/2, MS/DOS, PC/DOS.	(a)	$795
- dBASE III PLUS™	Single and multiuser data base management system.	12/85	$695
- dBASE III PLUS LAN Pack	Permits five additional users on a LAN to access dBASE III PLUS.	1/86	$995
- dBASE II®	Ashton-Tate's initial data base management system.	1/81	$495
- dBASE Mac	Relational data base management system for the Macintosh.	9/87	$495
- dBASE Mac RunTime	Execute-only version of dBASE Mac.	4/88	$300 (upgrade) $795 (with dBASE Mac)
- dBASE Direct/36™	Allows dBASE III PLUS users to access IBM System/36-resident data.	10/87	$1,695
- dBASE Direct/38™	Allows dBASE III PLUS users to access IBM System/38-resident data. resident data.	5/88	$2,995
- RapidFile™	File manager.	1/87	$295
Presentation Products			
- MultiMate Advantage II™	DOS-based word processor.	4/87	$565
- MultiMate Advantage II LAN	LAN version of MultiMate Advantage II, supporting six workstations.	9/87	$1,495
- MultiMate 3.3 Series	Word processor for 8-bit microcomputers.	6/85	$495
- FullWrite Professional™	Combines word processing, desktop publishing, and graphics.	4/88	$395
- Byline™	Desktop publishing product.	9/87	$295
- DRAW APPLAUSE™	Business presentation graphics.	1/88	$495
- FullPaint®	Graphics product for the Macintosh.	(b)	$99.95

(continued)

(a) Scheduled for release by September 30, 1988.

(b) Acquired in January 1988 with Ann Arbor Softworks.

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EXHIBIT
(continued)

ASHTON-TATE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	INITIAL SHIPMENT DATE	SUGGESTED RETAIL PRICE
Presentation Products (*continued*)			
MASTER GRAPHICS™ Products			
- CHART-MASTER®	Creates bar, area, pie, and line charts.	10/81	$375
- SIGN-MASTER®	Creates word charts, tables, and signs.	10/83	$245
- DIAGRAM-MASTER®	Creates organization and Gantt charts and custom diagrams.	7/85	$345
- PRESENTATION PACK	Incorporates CHART-MASTER, SIGN-MASTER, and DIAGRAM-MASTER.	--	$495
- MAP-MASTER®	Creates data-driven maps.	3/86	$495
Multifunction Products			
- Framework III	Successor to Framework II with optional electronic mail.	7/88	$695
- Framework III LAN	Five-user LAN version.	10/88	$995
- Framework II™	Provides spreadsheet and word processing capabilities with data base, graphics, outlining, and communications modules.	10/85	$695
- Full Impact™	Multifunction spreadsheet for the Macintosh.	7/88	$395

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Recent significant announcements made by Ashton-Tate include the following:

- In January 1988, Ashton-Tate announced a strategic alliance with Microsoft to produce and market the Ashton-Tate/Microsoft SQL Server, an advanced OS/2 data base server based on technology developed by Sybase, Inc. (Berkeley, CA). Ashton-Tate made an equity investment in Sybase in April 1988.

- In April 1988 Ashton-Tate announced an agreement with Interbase Software Corporation (Tyngsborough, MA) to jointly develop technology components for Ashton-Tate's next generation of workstation data base products running under OS/2 Presentation Manager and other operating system platforms such as VMS, UNIX, and Macintosh. Ashton-Tate will have exclusive marketing rights to the jointly-developed technology, which it will co-own with Interbase. As part of the agreement, Ashton-Tate has taken an equity position in Interbase.

- In February 1988, Ashton-Tate announced dBASE IV, the company's next generation data base management product. Scheduled for availability by September 30, 1988, dBASE IV features a redesigned user interface (including an applications generator), an automatic program compiler, and dBASE/SQL, a new programming language that unites the dBASE and SQL standards.

- Other new product announcements included:

  - DRAW APPLAUSE, an advanced graphics product.

  - Three Macintosh products: FullWrite Professional (word processing); Full Impact (spreadsheet); and dBASE Mac RunTime (execute-only version of dBASE Mac for third-party developers).

Purchasers of the company's software products receive 90-days' free technical support and thereafter must subscribe to one of the company's support programs in order to receive service and support.

Ashton-Tate publishes books and periodicals for users of Ashton-Tate software related to computers and computer software to support each of its product families, to increase the company's brand name recognition, and to reach new markets and distribution channels. Books published by Ashton-Tate are

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typically written and copyrighted by independent authors who receive royalties from Ashton-Tate.

In December 1987, Ashton-Tate began MASTER GRAPHICS Overnight™, a service for MASTER GRAPHICS users that allows them to transmit, by telephone, files to a central location where they are converted into slides and returned to the user via overnight courier. A similar service is available for DRAW APPLAUSE files.

Industry Markets

Ashton-Tate derives over 50% of its revenue from sales to U.S./Canadian (UCAN operations) distributors and dealers. The remainder is derived from OEMs, VARs, and international subsidiaries, dealers, distributors, and export sales.

A three-year summary of source of revenue by distribution channel follows:

ASHTON-TATE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY

	FISCAL YEAR		
ITEM	1/88	1/87	/86
UCAN operations			
• Distributors	27%	35%	45%
• Dealers	30%	25%	*17%
• OEMs	7%	3%	8%
• VARs	1%	1%	1%
• Direct sales	5%	8%	5%
	70%	72%	76%
International operations (includes export sales)	30%	28%	24%
TOTAL	**100%**	**100%**	**100%**

Distributors market Ashton-Tate's products to authorized dealers and provide product support, merchandising aids, and other support services. Ashton-Tate's three nonexclusive distributors in the U.S. are Micro D, Inc. (accounting for 12% of fiscal 1988 revenue), Softsel Computer Products (accounting for 8% of fiscal 1988 revenue), and Ingram Software Distribution Services (accounting for 7% of fiscal 1988 revenue).

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Ashton-Tate's dealers are primarily microcomputer hardware and software retail stores. The company's products are sold through more than 5,000 retail outlets, including national chains such as Businessland, ComputerLand, Egghead Discount Software, Corporate Software, and Entre Computer Centers.

The company targets its OEM sales to microcomputer hardware manufacturers and seeks to establish strategic supplier relationships. Ashton-Tate has royalty agreements covering sales of certain of its products with various OEMs, including Tandy, Wang, Zenith, Hewlett-Packard, and AT&T.

Direct sales of certain products, primarily publications and product upgrades, are made to educational institutions and other end users.

Geographic Markets

Approximately 70% of Ashton-Tate's fiscal 1988 revenue was derived from the U.S. and Canada, 21% from Europe (including the U.K.), 1% from the Far East (including Japan and Hong Kong), and 8% from U.S. export sales.

A three-year financial summary by geographic market follows:

ASHTON-TATE CORPORATION
THREE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR					
	1/88		1/87		1/86	
ITEM	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL
Revenue						
• U.S.	$186.3	70%	$151.4	72%	$92.1	76%
• Europe	57.4	21%	40.3	19%	20.6	17%
• Far East	2.2	1%	--	--	--	--
• U.S. exports	21.4	8%	19.1	9%	8.9	7%
Total	**$267.3**	**100%**	**$210.8**	**100%**	**$121.6**	**100%**
Operating income						
• U.S.	$44.9	62%	$37.4	66%	$20.6	69%
• Europe	22.8	31%	14.2	25%	7.3	24%
• Far East	0.2	--	--	--	--	--
• U.S. exports	5.1	7%	4.8	9%	2.0	7%
Total	**$73.0**	**100%**	**$56.4**	**100%**	**$29.9**	**100%**

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Ashton-Tate has U.S. regional sales offices in Chicago, Dallas, Mountain View and Torrance (CA), New York, and Washington, D.C., and Canadian offices in Vancouver and Toronto.

Development centers are located in Glendale, Sunnyvale, and Walnut Creek (CA), and East Hartford and Westport (CT).

In addition to its Canadian operations, Ashton-Tate currently operates foreign subsidiaries located in the U.K., the Netherlands, West Germany, Spain, Italy, Australia, Singapore, Japan, Hong Kong, and New Zealand, each with field service and technical personnel to support dealer and distributor sales in those and neighboring countries.

Ashton-Tate also has foreign distributors and dealers that service the principal worldwide markets for its products. The company has OEM agreements with several international companies, including IBM in Europe and the Far East.

Computer Hardware

Ashton-Tate maintains various microcomputers at its offices for research and development and customer support.

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FINANCIAL UPDATE TO PROFILE DATED MAY 1986

ASHTON-TATE
20101 Hamilton Avenue
Torrance, CA 90502
(213) 329-8000

Edward M. Esber, Jr., Chairman, CEO
Luther J. Nussbaum, President and COO
Public Corporation, OTC
Total Employees: 1,100 (3/1/87)
Total Revenue, Fiscal Year End 1/31/87: $210,799,000

ASHTON-TATE
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1/87	1/86	1/85	1/84	1/83
Revenue	$210,799	$121,571	$ 82,281	$ 42,994	$18,100
. Percent increase from previous year	73%	48%	91%	138%	396%
Income (loss) before taxes	$ 58,161	$ 30,679	$ 12,427	$ 9,904	$ 1,925
. Percent increase (decrease) from previous year	90%	147%	25%	414%	717%
Net income (loss)	$ 30,100	$ 16,567	$ 7,463	$ 5,270	$ 1,071
. Percent increase (decrease) from previous year	82%	122%	42%	392%	712%
Earnings (loss) per share (a)	$ 1.26	$ 0.85	$ 0.40	$ 0.34	$ 0.08
. Percent increase (decrease) from previous year	48%	113%	18%	325%	N/A

(a) Restated to reflect a 100% stock dividend distributed to stockholders in January 1987.

- Revenue for the six months ending July 31, 1987, was $123.8 million, a 37% increase over $90.2 million during the same period for fiscal 1986. Net income for the period was $19.2 million, compared with $11.6 million for the first half of 1986.

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- Ashton-Tate management attributes the company's growth primarily to the following factors:
  - Increased shipments of dBASE III PLUS and Framework II.
  - A strong revenue contribution from the MultiMate product line.
  - An improved international position.
  - Effective management.
- In September 1986, Ashton-Tate acquired Decision Resources, Inc., for $12.9 million in cash. Decision Resources now operates as a division of Ashton-Tate.
  - Decision Resources, founded in 1981, provides microcomputer graphics application software products.
  - Revenue reached $9.5 million in 1985, a 171% increase over $3.5 million in 1984.
    - Decision Resources' revenue for the 12-month period ending June 30, 1986 was approximately $13 million.
  - As of September 1986, Decision Resources had 120 employees.

SOURCE OF REVENUE

- Virtually all of Ashton-Tate's revenue is derived from microcomputer software products. A three-year summary of source of revenue by product category follows:

	1/87	1/86	1/85
Data base	63%	79%	76%
Word processing*	19	5	-
Multifunction*	11	13	18
Business graphics*	3	-	-
Other	4	3	6
	100%	100%	100%

* Revenues from multifunction, word processing, and business graphics products are included in Ashton-Tate's net revenues commencing with the fiscal 1985 shipment of Framework, the fiscal 1986 fourth quarter acquisition of MultiMate, and the fiscal 1987 third quarter acquisition of Decision Resources, respectively.

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- Ashton-Tate derives the majority of its revenue from sales to domestic distributors and dealers. The remainder is derived from OEMs, VARs, and international subsidiaries, dealers, and distributors. A three-year summary of source of revenue follows:

	1/87	1/86	1/85
Domestic Distribution			
- Distributors	35%	45%	50%
- Dealers	25	17	16
- OEMs	3	8	12
- VARs	1	1	-
- Other	8	5	-
	72%	76%	78%
International Operations	28%	24%	22%
	100%	100%	100%

- Approximately 72% of Ashton-Tate's fiscal 1987 revenue was derived from the U.S. The remaining 28% was derived from export foreign sales.

NEW PRODUCTS AND SERVICES

- In July 1987, the company introduced MASTER GRAPHICS Presentation Pack, a family of four products: CHART-MASTER, SIGN-MASTER, DIAGRAM-MASTER, and MAP-MASTER. The products operate on IBM PC, XT, AT, and compatible microcomputers.

  - Descriptions of the products follows:

    - CHART-MASTER allows users to create presentation quality data analysis.

    - SIGN-MASTER creates colorful word charts.

    - DIAGRAM-MASTER provides presentation quality organization and Gantt charts.

    - MAP-MASTER is a data driven map creator.

  - MASTER GRAPHICS Presentation pack is priced at $595 (not including MAP-MASTER).

  - The package is targeted to Fortune 1000 corporate customers.

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ADDENDUM TO PROFILE DATED MAY 1986

Company: ASHTON-TATE
Re: Acquisition of Decision Resources, Inc.

DECISION RESOURCES, INC.
25 Sylvan Road South
Westport, CT 06880
(203) 222-1974

Sean O'Conner, President
Division of Ashton-Tate
Total Employees: 90
Total Revenue, Fiscal Year End 12/31/85: $9,500,000

THE COMPANY

- In August 1986 Ashton-Tate announced its plans to acquire Decision Resources, Inc. for approximately $13 million in cash. The acquisition was completed in September 1986. Decision Resources now operates as a division of Ashton-Tate.
- Decision Resources, founded in 1981, provides microcomputer graphics application software products.
- Revenue reached $9.5 million in 1985, a 171% increase over $3.5 million in 1984.
  - Decision Resources' revenue for the 12-month period ended June 30, 1986 was approximately $13 million.
- As of December 31, 1985, Decision Resources had 90 employees. Currently, there are 120 employees.
- Decision Resources' primary competitors are Graphic Communications, Inc., which was acquired by Lotus Development Corporation in June 1986, and Microsoft Corporation.

KEY PRODUCTS AND SERVICES

- Virtually all of Decision Resources' 1985 revenue was derived from microcomputer software products.
- Decision Resources currently markets four graphics software products that operate on IBM PC and compatible microcomputers and support most popular printers and plotters.

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- Each product offers a variety of typefaces, type sizes, graphic symbols, hatching, and cross-hatching patterns, as well as use of eight or more colors, depending on the printer or plotter capability.

- The following products are offered under the trade name Master Graphics, which was introduced in September 1986.

  - CHART-MASTER® is a presentation graphics package that offers a variety of formats including bar, pie, line, and scatter or area charts; linear or logarithmic scales; and vertical or horizontal orientations.

    - With its DataGrabber T.M. feature, CHART-MASTER retrieves data from analytical programs including Lotus 1-2-3, Symphony, VisiCalc, MultiPlan, and dBASE.

  - SIGN-MASTER T.M. is a package that allows creation of word charts for use in business presentations, signs, handouts, and other notices.

  - DIAGRAM-MASTER T.M. allows creation of diagrams for specific applications including organization charts or Gantt charts, and for free-form diagrams.

    - With its Drawing Board feature, DIAGRAM-MASTER provides command for pre-drawn boxes, circles, arrows, lines, and other shapes, as well as text. The feature also allows enhancement of the built-in formats for organization and Gantt charts.

  - MAP-MASTER T.M. is a package for creating maps that display general and company statistics within geographic regions.

    - MAP-MASTER uses two types of files to create maps as follows:

      - Boundary Files draw the outlines of geographical regions including countries, states, counties, metropolitan areas, and ZIP code.

      - Statistics Files contain demographic and economic data for regions in a Boundary File.

    - MAP-MASTER creates maps that display data from a Statistics File, data pulled from a spreadsheet or data base file using DataGrabber, information directly inputted, or a combination of these sources.

    - The MAP-MASTER package includes boundaries for the U.S. by state with statistics on population, median age,

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total effective income, total retail sales, and buying power index.

. Additional boundary and statistics files are available separately from Decision Resources.

- The software is priced at the retail level as follows:

  . CHART-MASTER - $375.

  . SIGN-MASTER - $245.

  . DIAGRAM-MASTER - $345.

  . MAP-MASTER - $395. Additional files - $95 to $195.

INDUSTRY MARKETS

- Decision Resources markets its software across all industry sectors through distributors, dealers, and original equipment manufacturers (OEMs).

GEOGRAPHIC MARKETS

- Approximately 95% of 1985 revenue was derived from the U.S. The remaining 5% was derived internationally.

- Decision Resources maintains an international office in London, England.

COMPUTER HARDWARE

- Decision Resources maintains various IBM PCs at its headquarters location.

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COMPANY PROFILE

ASHTON-TATE
20101 Hamilton Avenue
Torrance, CA 90502
(213) 329-8000

Edward M. Esber, Jr., President and CEO
Public Corporation, OTC
Total Employees: 877 (3/1/86)
Total Revenue, Fiscal Year End 1/31/86: $121,571,000

THE COMPANY

- Ashton-Tate, incorporated in 1980 as Software Plus, Inc., develops, markets, and supports data base management, word processing, and multifunction microcomputer software products. The company also publishes a series of books, periodicals, and book/disk packages relating to computer hardware and software.

  - During 1983 the company changed its name to Ashton-Tate and in November 1983 made an initial public offering of 1.7 million shares of common stock (1.1 shares were sold by the company and 600,000 shares were sold by certain stockholders). Net proceeds to the company were approximately $13.8 million.

  - On July 18, 1985 Ashton-Tate acquired the remaining 85% of Forefront Corporation for approximately 500,000 shares of Ashton-Tate common stock. Ashton-Tate originally purchased a 15% interest in Forefront during 1983.

    - Forefront, a Sunnyvale (CA)-based microcomputer software development firm, developed Ashton-Tate's Framework® multifunction software product.

    - The acquisition was accounted for as a purchase.

    - Forefront now operates as Ashton-Tate's Forefront Development Center.

  - On December 4, 1985 Ashton-Tate acquired MultiMate International Corporation for approximately $22.7 million in cash. The acquisition was accounted for as a purchase.

    - MultiMate provides word processing microcomputer software products. The company had revenue of $21.1 million for the fiscal year ending March 31, 1985 and $13.8 million for the six months ending September 30, 1985.

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- The operations of MultiMate are currently being merged into Ashton-Tate.

- During April 1986 Ashton-Tate made a second public offering of 1.3 million shares of its common stock. Estimated net proceeds to the company of $26 to $30 million will be used for working capital and other general corporate purposes.

- Fiscal 1986 revenue reached $121.6 million, a 48% increase over $82.3 million for fiscal 1985. Net income rose 122%, from $7.5 million in fiscal 1985 to $16.6 million in fiscal 1986. In the five-year financial summary that follows, the operating results of MultiMate and Forefront are included from their respective acquisition dates.

ASHTON-TATE
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1/86	1/85	1/84	1/83	1/82
Revenue	$ 121,571	$ 82,281	$ 42,994	$ 18,100	$ 3,651
. Percent increase from previous year	48%	91%	138%	396%	685%
Income (loss) before taxes	$ 30,679	$ 12,427	$ 9,904	$ 1,925	$ (31[illegible]
. Percent increase (decrease) from previous year	147%	25%	414%	717%	(750%)
Net income (loss)	$ 16,567	$ 7,463	$ 5,270	$ 1,071	$ (175)
. Percent increase (decrease) from previous year	122%	42%	392%	712%	(538%)
Earnings (loss) per share	$ 1.70	$ 0.80	$ 0.68	$ 0.15	$ (0.03)
. Percent increase (decrease) from previous year	113%	18%	353%	600%	(400%)

- On a pro forma basis, assuming Forefront and MultiMate operating results were included for the entire year, Ashton-Tate's fiscal 1986 revenue and net income would be $145 million and $15.4 million, respectively.

- Ashton-Tate management attributes the company's growth primarily to the acceptance of two new major products, dBASE III PLUS and Framework II, substantial sales of dBASE III, enhancements to existing products, significant increases in exports and foreign operations, and the acquisition of MultiMate.

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- Research and development expenditures were approximately $11.3 million (9% of revenue) in fiscal 1986, $5 million (6% of revenue) in fiscal 1985, and $3.4 million (8% of revenue) in fiscal 1984.

- Revenue for the three months ending April 30, 1986 was $41.2 million, compared to $24 million for the same period in 1985. Net income for the quarter rose 119% from $2.3 million to $5.1 million.

- As of March 1, 1986, Ashton-Tate had 877 full-time employees, segmented as follows:

Domestic marketing/sales/support	364
Administration and finance	112
Product development and acquisition	149
Production	94
International operations and sales	141
Book and periodical publishing	17
	877

- Ashton-Tate's primary competitors include Lotus Development, Microsoft, Software Publishing, MicroPro International, and IBM. Other companies, including AT&T, Tandy, and Cullinet, may develop and market, or are marketing, software products competitive with the products offered by Ashton-Tate.

KEY PRODUCTS AND SERVICES

- Virtually all of Ashton-Tate's revenue is derived from microcomputer software products. A three-year summary of source of revenue by product follows:

	1/86	1/85	1/84
dBASE II	9%	30%	85%
dBASE III	53	46	-
dBASE III PLUS	17	-	-
Framework®	7	18	-
Framework II	6	-	-
MultiMate Advantage T.M.*	2	-	-
MultiMate® 3.3 Series*	3	-	-
Other	3	6	15
Total	100%	100%	100%

* Revenue from these products are included in Ashton-Tate's results only for the last two months of fiscal 1986 following the acquisition of MultiMate in December 1985.

- Ashton-Tate currently offers microcomputer software products in three segments of the business software market: data base management, word

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processing, and multifunction software. The company's current product offerings are shown in the exhibit.

- All of Ashton-Tate's principal products run on IBM PC, PC/XT, PC/AT, and compatible microcomputers. dBASE II also operates on a range of 8-bit and 16-bit microcomputers, including those manufactured by IBM, Apple, and Tandy.

- Ashton-Tate has had worldwide net shipments, since inception, of over one million units of software products.

- In January 1983, Ashton-Tate began publishing books and periodicals relating to computers and computer software to support users of each of its product families, and to increase the company's brand name recognition.

  - Ashton-Tate currently publishes more than 40 books and in February 1985 published its first issue of The Ashton-Tate Quarterly, a periodical aimed at users of Ashton-Tate software.

  - To date, Ashton-Tate has distributed more than 775,000 copies of books related to dBASE II and dBASE III, and more than 165,000 copies related to Framework and Framework II.

  - Books published by Ashton-Tate are typically written and copyrighted by independent authors who receive royalties from the company.

  - McGraw-Hill, Inc. acts as a distributor on a consignment basis of the company's books.

- The company's software products are marketed worldwide through distributors, dealers, original equipment manufacturers (OEMs), value-added remarketers (VARs), and the company's own sales force. Ashton-Tate provides various support services and products as follows:

  - Ashton-Tate provides merchandising aids to its dealers and distributors, including brochures, point-of-purchase displays, and a variety of other promotional items. The company provides product and sales training manuals and sales training seminars to dealers and distributors and, in certain cases, to computer manufacturers. In addition, the company supplies technical assistance and sales support to dealers and distributors.

  - Ashton-Tate has recently formed a Dealer Advisory Board, consisting of representatives from over 15 computer retail chains, franchises, and independent retailers, to facilitate the exchange of information between the company and dealers.

  - Ashton-Tate supports end users and dealers by providing access to its trained technical support staff via telephone.

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EXHIBIT

ASHTON-TATE PRODUCTS

PRODUCT	DESCRIPTION	INITIAL SHIPMENT DATE	SUGGESTED RETAIL PRICE
Data Base Management Products			
- dBASE III PLUS	Successor to dBASE III and dBASE II, combines standalone and multiuser capabilities for data base management.	12/85	$695
- dBASE III PLUS LAN Pack	Permits three additional users on a local area network to access DBASE III PLUS.	1/86	$995
- dBASE II	Ashton-Tate's initial data base management product.	1/81	$495
Word Processing Products			
- MultiMate 3.3 Series	Word processing package targeted to business and professional users.	6/85	$495
- MultiMate Advantage	Word processing package targeted to corporations.	7/85	$595
- MultiMate Business Advantage Keyboard	IBM and compatible keyboard substitute	1985	$350
- MultiMate Business Advantage Communications Board	Permits documents transfer and communications between IBM microcomputers and Wang word processors.	1985	$995
Multifunction Products			
- Framework II	Successor to Framework, provides spreadsheet and word processing capabilities with data base, graphics, outlining, and communications modules.	10/85	$695
- Decision Maker Series	Add-on packages for Framework II.		
• Financial Management		New	$69.95
• Project Analysis		4/86	$69.95
• Decision Modeling		4/86	$69.95

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INDUSTRY MARKETS

- Ashton-Tate derives the majority of its revenue from sales to domestic distributors and dealers. The remainder is derived from OEMs, VARs, and international subsidiaries, dealers, and distributors. A two-year summary of source of revenue follows:

	1/86	1/85
Domestic Distribution		
- Distributors	45%	50%
- Dealers	17	16
- OEMs	8	12
- VARs	1	-
- Other	5	-
	76%	78%
International Operations	24	22
	100%	100%

  - Ashton-Tate's non-exclusive distributors include Softsel Computer Products, Ingram Software Distribution Services, Micro D, Inc., and First Software.

  - The majority of dealers marketing Ashton-Tate's products purchase these products from distributors. Ashton-Tate sells direct to approximately 30 authorized dealer organizations, representing over 1,800 retail stores. In total, the company's products are sold through more than 4,000 outlets, including such national chains as Businessland, ComputerLand, Sears Business Systems Centers, and Entre Computer Centers.

  - Ashton-Tate has agreements for certain of its products with OEMs, including Tandy, Wang, Zenith, Hewlett-Packard, and AT&T.

GEOGRAPHIC MARKETS

- Approximately 76% of Ashton-Tate's fiscal 1986 revenue was derived from the U.S. The remaining 24% was derived from export and foreign sales. A further geographic breakdown of fiscal 1986 revenue follows:

U.S.	76%
Europe	20
Canada	2
Other	2
	100%

- Ashton-Tate has U.S. regional sales offices in Burlingame (CA), Bellevue (WA), Chicago, Irving and Houston (TX), Atlanta, Miami Beach, New York

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City, Reston (VA), and Burlington (MA). Product development centers are located in Glendale and Sunnyvale (CA), and East Hartford (CT).

- Ashton-Tate currently has foreign subsidiaries located in the U.K., the Netherlands, West Germany, Spain, Italy, and Australia.
  - In 1985 Ashton-Tate established Nippon Ashton-Tate, a joint venture in Japan with Japan Systems Engineering, Inc., to distribute the company's products in Japan.
  - The company has a sales office in Toronto (Canada) to service Canadian customers, and also in Japan to service customers in Japan and other Asian countries.
  - Ashton-Tate's foreign subsidiaries and joint ventures facilitate the company's marketing and distribution in international markets, and assist in translating the company's products into foreign languages.
  - Ashton-Tate also has distributors and dealers worldwide. The company has established agreements with several OEMs, including ACT in the U.K. and IBM in Europe and the Far East.

COMPUTER HARDWARE AND SOFTWARE

- Ashton-Tate maintains a variety of microcomputers at its various offices worldwide.

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FINANCIAL UPDATE TO PROFILE DATED NOVEMBER 1983*

ASHTON-TATE
10150 West Jefferson Boulevard
Culver City, CA 90230
(213) 204-5570

Edward M. Esber, Jr., President and CEO
Public Corporation, OTC
Total Employees: 500
Total Revenue, Fiscal Year End 1/31/85: $82,281,000

ASHTON-TATE
PRO FORMA FINANCIAL SUMMARY
($ thousands, except per share data)

FISCAL YEAR / ITEM	1/85	1/84(a)	1/83 (a)
Revenue	$ 82,281	$ 39,846	$ 10,040
Income before taxes	$ 12,427	$ 12,030	$ 3,428
Net income	$ 7,463	$ 6,230	$ 1,714
Earnings per share	$ 0.80	$ 0.78	$ 0.23

(a) In May 1983 Ashton-Tate sold the assets and liabilities of its wholesale software distribution division and the inventories and fixed assets of its mail order software division. In August 1983 the company acquired the rights to the dBASE II® and dBASE Run Time T.M. software products from their author. After giving effect to the divestitures and acquisition, the company has presented financial data for fiscal 1983 and 1984 on an unaudited pro forma basis.

- A four-year historical financial summary, which does not give effect to the divestitures and acquisition, follows on the next page.

*Replaces Financial Update of July 1984

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ASHTON-TATE
FOUR-YEAR HISTORICAL FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1/85	1/84	1/83	11/82
Revenue	$ 82,281	$ 42,994	$ 18,100	$ 3,651
. Percent increase from previous year	91%	138%	396%	685%
Income (loss) before taxes	$ 12,427	$ 9,904	$ 1,925	$ (312)
. Percent increase (decrease) from previous year	25%	414%	717%	(750%)
Net income (loss)	$ 7,463	$ 5,270	$ 1,071	$ (175)
. Percent increase (decrease) from previous year	42%	392%	712%	(538%)
Earnings (loss) per share	$ 0.80	$ 0.68	$ 0.15	$ (0.03)
. Percent increase (decrease) from previous year	18%	353%	600%	(400%)

SOURCE OF REVENUE

- Ashton-Tate's revenue for the fiscal year ending January 1985 was derived principally from the development, publishing, and distribution of microcomputer software.

- Shipments of dBASE II® accounted for 30% of revenue for fiscal 1985 compared to 85% of revenue in 1984. The change is due to reduction in price from $700 to $495 and to new product introductions by Ashton-Tate. To date over 320,000 units of dBASE II have been shipped.

- New products introduced during the fiscal year include the following:

  - Framework™, developed by Forefront Corporation in Sunnyvale (CA), is a multi-function software product for IBM PC, XT, AT, and compatible microcomputers that includes word processing, spreadsheet, data base management, business graphics, DOS access, and telecommunications. It also contains an outline generator for organizing ideas and a procedural language, FRED™ (FRame EDitor), for developing customized programs.

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  - Shipments began in July 1984 and by March 1985 Ashton-Tate had shipped over 63,000 units of Framework.
  - The package sells for $695 and accounted for 18% of fiscal 1985 revenue.

- dBASE III[T.M.] is a data base management system for 16-bit microcomputers with 256K of RAM memory and a PC-DOS 2.0 operating system that is written in the "C" language.
  - Shipments began in June 1984 and since that time over 185,000 units have been sold.
  - dBASE III accounted for 46% of fiscal 1985 revenue. The package sells for $695.

- dBASE[T.M.] /Answer, a micro-to-mainframe software product, links Ashton-Tate microcomputer data base management products with mainframe computers.
  - Announced in May 1984, the product was jointly developed and is jointly marketed with Informatics General Corporation.
  - A typical configuration consists of an Answer/DB module for the mainframe and 50 copies of dBASE/Answer for connected IBM PCs or XTs. This package is priced at $45,000.

- Approximately 78% ($64 million) of fiscal 1985 revenue was derived from the U.S. and the remaining 22% ($18 million) was derived from international sales.

- Ashton-Tate's revenue for the first quarter ended April 30, 1985 was $24 million, a 114% increase over revenue of approximately $11.2 million for the same period the previous year. Net income for the quarter was $2.35 million, compared to approximately $150,000 for the comparable period a year ago.

- In May 1985 Ashton-Tate agreed to acquire the outstanding 85% of capital stock of Forefront Corporation, the developer of Framework, for 500,000 shares of Ashton-Tate common stock. Ashton-Tate has held a 15% interest in Forefront since its founding in 1983. The merger will be treated as a purchase for accounting purposes.

- In July 1985 Ashton-Tate signed a letter of intent to acquire Multimate International Corporation, East Hartford (CT), the producer of the microcomputer software package MultiMate Professional Word Processor.

  - Terms of the agreement are for approximately one million shares of Ashton-Tate common stock and an undisclosed amount of cash up to a total consideration of approximately $19 million, based on current market values. The agreement is subject to approval by both boards and Multimate shareholders.

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- Multimate, with about 220 employees, reported revenue of $21 million for its fiscal year ended March 31, 1985. Revenue for Multimate's first quarter ended June 30, 1985 was approximately $7.4 million, with pretax profit of about $2 million.

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FINANCIAL UPDATE TO HIGHLIGHT DATED NOVEMBER 1983

ASHTON-TATE
10150 West Jefferson Boulevard
Culver City, CA 90230
(213) 204-5570

George Tate, Chairman
David C. Cole, President and CEO
Public Corporation, OTC
Total Employees: 330
Total Revenue, Fiscal Year End 1/31/84: $39,846,000 (pro forma)

ASHTON-TATE
PRO FORMA FINANCIAL SUMMARY (a)
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1/84	1/83
Revenue	$39,846	$10,040
Income before taxes	$ 12,030	$ 3,428
Net income	$ 6,230	$ 1,714
Earnings per share	$ 0.78	$ 0.23

(a) In May 1983 Ashton-Tate sold the assets and liabilities of its wholesale software distribution division and the inventories and fixed assets of its mail order software division. In August 1983 the company acquired the rights to the dBASE II® and dBASE RunTime T.M. software products from their author. After giving effect to the divestitures and acquisition, the company has presented financial data for fiscal 1983 and 1984 on an unaudited pro forma basis.

- A four-year historical financial summary, which does not give effect to the divestitures and acquisition, follows on the next page.

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ASHTON-TATE
FOUR-YEAR HISTORICAL FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1/84	1/83	1/82	8/80-1/81
Revenue	$ 42,994	$ 18,100	$ 3,651	$ 465
. Percent increase from previous year	138%	396%	685%	N/A
Income (loss) before taxes	$ 9,904	$ 1,925	$ (312)	$ 48
. Percent increase (decrease) from previous year	414%	717%	(750%)	N/A
Net income (loss)	$ 5,270	$ 1,071	$ (175)	$ 40
. Percent increase (decrease) from previous year	392%	712%	(538%)	N/A
Earnings (loss) per share	$ 0.68	$ 0.15	$ (0.03)	$ 0.01
. Percent increase (decrease) from previous year	353%	600%	(400%)	N/A

SOURCE OF REVENUE

- Over 96% of Ashton-Tate's pro forma fiscal 1984 revenue was derived from licensing systems and applications software packages for microcomputers. Approximately 3% was derived from the publishing of books and periodicals.

- Pro forma revenue from specific software products for fiscal 1984 was segmented approximately as follows:

dBASE II®	85%
Friday! T.M.	6
RunTime T.M.	2
The Financial Planner T.M.	2
The Bottom Line Strategist T.M.	1
	96%

  - The Financial Planner and The Bottom Line Strategist were discontinued by Ashton-Tate during fiscal 1984.

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COMPANY HIGHLIGHT

ASHTON-TATE
10150 West Jefferson Boulevard
Culver City, CA 90230
(213) 204-5570

George Tate, Chairman
David C. Cole, President
Public Corporation, OTC
Total Employees: 100
Total Revenue, Fiscal Year End
1/31/83: $10,040,000 (pro forma)

THE COMPANY

- Ashton-Tate[T.M.], incorporated in August 1980 as Software Plus, Inc., develops, markets, and supports microcomputer systems and applications software products. In January 1983 the company also began marketing books and periodicals relating to computer hardware and software.

  - In May 1983 the company changed its name from Software Plus, Inc. to Ashton-Tate.

- The company made an initial public offering on November 30, 1983, of 1.7 million shares of common stock, 1.1 million of which will be sold by the company and 600,000 by selling stockholders. Net proceeds to the company of approximately $15.4 million will be used as follows:

  - Approximately $3.3 million will be used to pay a portion of the purchase price for the prior acquisition of all rights to the dBASE II® and dBASE RunTime[T.M.] software products.

  - An estimated $2 million will go towards equipment and leasehold improvements.

  - Approximately $500,000 will be used for payments due for the company's investment in Vault Corporation.

  - The balance of net proceeds will be used for acquisition of software products or companies and for working capital.

- In May 1983 Ashton-Tate sold the assets and liabilities of its wholesale software distribution division and the inventories and fixed assets of its mail order software division. In August 1983 the company acquired the rights to the dBASE II and dBASE RunTime software products from their author. After giving effect to the divestitures and acquisition, the company has presented financial data for fiscal year 1983 and the six months ending July 1982 and 1983 on an unaudited pro forma basis, as follows:

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ASHTON-TATE
PRO FORMA FINANCIAL SUMMARY
($ thousands, except per share data)

	Year Ended 1/83	Six Months Ended 7/83	Six Months Ended 7/82
Revenue	$ 10,040	$ 14,868	$ 2,612
Income before taxes	$ 3,428	$ 5,677	$ 954
Net income	$ 1,714	$ 2,869	$ 477
Earnings per share	$ 0.23	$ 0.38	$ 0.06

- The adjustments resulted in a net decrease to historical revenue (presented below) of approximately $8.06 million, $3.15 million, and $3.61 million for fiscal year 1983 and the six months ended July 1983 and 1982, respectively.

- The adjustments also resulted in an increase of approximately $643,000, $960,000, and $133,000 to net income for fiscal year 1983 and the six months ended July 1983 and 1982, respectively.

- A three-year historical financial summary follows, which does not give effect to the divestitures and acquisition:

ASHTON-TATE
THREE-YEAR HISTORICAL FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1/83	1/82	8/80-1/81
Revenue	$ 18,100	$ 3,651	$ 465
. Percent increase from previous year	396%	685%	N/A
Income (loss) before taxes	$ 1,925	$ (312)	$ 48
. Percent increase (decrease) from previous year	717%	(750%)	N/A
Net income (loss)	$ 1,071	$ (175)	$ 40
. Percent increase (decrease) from previous year	712%	(538%)	N/A
Earnings (loss) per share	$ 0.15	$ (0.03)	$ 0.01
. Percent increase (decrease) from previous year	600%	(400%)	N/A

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- Increases in Ashton-Tate revenue, on both a historical and pro forma basis, have primarily been the result of increased revenue from the dBASE II software product.

  - Prior to Ashton-Tate's acquisition of dBASE II and dBASE RunTime, the company held an exclusive license to market these programs and paid royalties of approximately $1.05 million and $1.56 million during fiscal 1983 and the six months ended July 31, 1983, respectively.

- Details of recent Ashton-Tate acquisition and divestiture activity include the following:

  - In May 1983 Ashton-Tate sold substantially all of the assets and liabilities of its wholesale software distribution division to Softeam, Inc. Also in May, the company sold the inventories and fixed assets of its mail order software division to DiscSoft, Inc. for $108,129.

  - The company acquired a 15% equity interest in Forefront Corporation, a San Francisco-based microcomputer software development firm, for $225,000 on August 19, 1983. Under terms of the agreement, Ashton-Tate has the option to acquire the remaining capital stock of Forefront within three years and receives an exclusive right to market the company's products. The company also entered into a $750,000 research and development contract with Forefront for the further development of a software package which Ashton-Tate will have the right to distribute exclusively.

  - On August 24, 1983, Ashton-Tate acquired the rights to dBASE II and dBASE RunTime for $150,000 cash, 392,000 shares of common stock valued at $2.1 million, and a $6.4 million promissory note.

  - On September 16, 1983, the company acquired a 20% equity interest in Vault Corporation, a Los Angeles-based microcomputer software firm, for $500,000. Vault has developed and is further enhancing Prolok$^{T.M.}$, a microcomputer software protection technology which Ashton-Tate plans to incorporate with its products. Ashton-Tate also has a twelve-month option to purchase a further 30% of Vault for approximately $2 million.

- In January 1983 Ashton-Tate had approximately 100 employees, excluding employees associated with its former wholesale software distribution and mail order software divisions. As of October 31, 1983, the company had 228 employees segmented as follows:

Product marketing, sales, and support	103
Product development, enhancement, and acquisition	28
Production	29
International operations and sales	21
General administration and finance	47
	228

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KEY PRODUCTS AND SERVICES

- One hundred percent of Ashton-Tate's fiscal year 1983 revenue, on both a historical and pro forma basis, was derived from licensing systems and applications microcomputer software packages.

  - Approximately 95% of the company's pro forma revenue for the six months ending July 1983 was from software products and 5% was from the publishing of books and periodicals.

  - Pro forma revenue from specific software products for the six-month period ending July 1983 was segmented approximately as follows:

. dBASE II	81%
. The Financial Planner T.M.	7
. The Bottom Line Strategist T.M.	4
. RunTime	2
. Friday! T.M.	1
	95%

    - During the six months ended July 1983 Ashton-Tate conducted a special promotion relating to the combined sale of dBASE II, The Financial Planner, and The Bottom Line Strategist. The promotion did not realize the anticipated level of revenue. Sales of The Bottom Line Strategist have been discontinued and The Financial Planner is not anticipated to contribute significantly to future revenue.

  - The products run on most major 8- and 16-bit microcomputers including those from IBM, Apple, and DEC, under CP/M-80, CP/M-86, MS-DOS, and PC DOS.

  - As of October 31, 1983, the company had shipped over 176,700 software packages.

- Descriptions of Ashton-Tate software products follow:

  - dBASE II, first shipped in January 1981, is a relational data base management system using English-like commands for simple data manipulation. dBASE II has the capability to store, create, edit, retrieve, and manipulate data bases and generate reports.

    . Features include an applications development language, dBASE T.M., and a common data structure which allows multiple dBASE programs to share a single data base. dBASE allows users to develop general and vertical applications packages designed to fit their specific needs.

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- There are over 150,000 installations of dBASE II which has a suggested retail price of $700.

- Friday!, first shipped in July 1983, is a file management system for users who do not require the full capabilities of dBASE II. Friday! is written in dBASE, allowing users to upgrade files from Friday! to dBASE II without reconstructing or altering the data base, or to transfer files between the two programs regardless of the microcomputer used.

  - The package allows the user to design custom reports, print mailing labels, perform automatic calculations, and also interfaces with WordStar and 1-2-3.

  - As of October 31, 1983, approximately 8,000 units of Friday! had been shipped. The product has a suggested retail price of $295.

- RunTime, introduced in February 1983, is designed to encourage the development and sale of applications written in dBASE by dBASE II users and independent software developers. RunTime converts the dBASE program from source code to object code, protecting it from unauthorized modifications. The product also supplies the dBASE II features necessary for executing the program, permitting it to be sold as a standalone product.

  - There are over 775 dBASE programs using RunTime currently being marketed by independent software developers. Applications include financial and accounting, engineering, insurance, dental/medical, oil and gas, and real estate.

  - Since they are written in dBASE, the programs may be used with dBASE II and/or other dBASE programs with little or no modification.

  - As of October 31, 1983, approximately 10,000 units of RunTime had been shipped. The product is licensed for prices up to $100 per package.

- The Financial Planner, introduced in October 1982, is a financial modeling system designed for accounting and financial personnel with programming experience.

  - Product capabilities include profit and loss forecasting, construction of pro forma financial statements, budgeting, planning, and cash flow management.

  - As of October 31, 1983, approximately 4,000 units of the Financial Planner had been shipped. The product retails for $700.

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- Management predicts the product will not contribute significantly to future company revenue.

- Client support services provided by Ashton-Tate include the following:

  - Hotline access to technical personnel and research staff.

  - An Express Support Package, planned for availability in early 1984, will provide users with additional discounts on product enhancements, priority hotline access, a subscription to Ashton-Tate's monthly newsletter, and other special support services.

- In January 1983 Ashton-Tate established its book and periodical publishing business and presently publishes four books and a monthly newsletter relating to computer hardware and software.

INDUSTRY MARKETS

- The majority of Ashton-Tate's revenue is derived from sales to retail dealers and software distributors. The remainder is derived from microcomputer manufacturers (OEMs), independent software developers, and national accounts for large end-user companies.

- Pro forma revenue for the six months ending July 1983 was derived from the following distribution channels:

  - Forty-four percent of revenue was derived from retail dealers, including computer hardware and software retail stores, independent franchise operations, and mass merchandisers.

  - Twenty-eight percent of revenue was from independent software distributors including Softsel, Softeam, and Micro D.

  - Nine percent of revenue was from microcomputer manufacturers with which the company has OEM arrangements, including DEC, Hewlett-Packard, and Xerox.

  - Two percent of revenue was from independent software developers who market their dBASE programs to end users using RunTime, the largest including Abacus Systems, Database Research, Origin, Inc., and Task Force Services.

  - Three percent of revenue was from volume sales to large companies marketed on a site-license basis by Ashton-Tate's national accounts sales force, established in October 1982. Clients include Citibank, Computer Sciences Corporation, Ernst & Whinney, Florida Power & Light, Hughes Aircraft, and Xerox.

  - Fourteen percent of revenue was from foreign distributors, sales representatives, and subsidiaries.

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GEOGRAPHIC MARKETS

- Approximately 86% of Ashton-Tate's pro forma revenue for the six months ending July 1983 was derived from the U.S. The remaining 14% was from international sources.

- The company presently has U.S. regional sales offices located in Chicago and Washington, D.C. Additional regional sales offices are being established in Atlanta, Boston, Dallas/Ft. Worth, Los Angeles, New York City, and San Francisco.

- Ashton-Tate has subsidiaries in Great Britain and the Netherlands which provide marketing and technical support services, and is presently establishing a subsidiary in West Germany.

  - Foreign distributors and/or sales representatives are located in West Germany, France, and Japan.

COMPUTER HARDWARE AND SOFTWARE

- Ashton-Tate maintains a variety of microcomputers in Culver City.

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COMPANY
PROFILE

THE ASK GROUP, INC.
2440 W. El Camino Real
P.O. Box 7640
Mountain View, CA 94039-7640
Phone: (415) 969-4442
Fax: (415) 962-1974

Chairman:	Sandra L. Kurtzig
President & CEO:	Pier Carlo Falotti
Status:	Public Corporation
Stock Exchange:	NASDAQ
Total Employees:	2,282 (9/92)
Total Revenue:	$432,424,000
Fiscal Year End:	6/30/92

Key Points

- The ASK Group has pursued a strategy of diversification through the development and acquisition of core software technologies--intelligent relational data bases, fourth-generation language (4GL) development environments, application development tools, and open application products--in addition to its traditional manufacturing and financial management applications products for Hewlett-Packard (HP), DEC, and IBM midrange systems.

- The company's development plans include moving its applications to an open systems environment with its software operating on all the major hardware platforms. The first such product, MANMAN/X, was released in September 1992.

- The ASK Group will continue to deemphasize its hardware reselling activities and focus on its software and services business. Prior to the 1990 acquisition of Ingres, about 80% of revenue was from the U.S. and hardware resales accounted for more than 50% of total business. Now more than 45% of revenue comes from markets outside North America and more than 80% of revenue is from software licenses and services.

- The company has expanded its client base to include not only manufacturing customers, but also customers in international banking, government, transportation, telecommunications, advanced research, and retail.

- During the first quarter of fiscal 1993, Pier Carlo Falotti was appointed president and chief executive officer of The ASK Group and Sandra Kurtzig, the company's founder, transferred to Mr. Falotti the day-to-day running of the business.

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Company Description

The ASK Group develops, markets, and supports manufacturing and financial management applications for HP, DEC, IBM midrange, and UNIX-based computers which are available as software products or turnkey systems, and via processing services. As a result of the acquisition of Ingres Corporation, The ASK Group also provides relational data base management systems (RDBMSs) and application development tools for open systems.

During the first quarter of fiscal 1992, the company restructured its operations into The ASK Group, which includes a corporate function and three decentralized business units, each with worldwide responsibility for product development, marketing, sales and support, accounting, and administration for their respective product lines. The three business units include the following:

- ASK Computer Systems, based in Mountain View (CA) with 675 employees, is responsible for manufacturing applications, including the MANMAN® and MAXCIM product lines for HP and DEC systems, the MANMAN/X system for UNIX systems, and the upcoming ADVANCE open systems product family. This unit accounted for 37% ($158 million) of fiscal 1992 revenue.

- The Data 3 business unit, based in Santa Rosa (CA) with 120 employees, develops and markets the SIM/400 integrated manufacturing application for the IBM AS/400 market. This unit accounted for 4% ($19.5 million) of fiscal 1992 revenue.

- The Ingres business unit, headquartered in Alameda (CA) with 1,550 employees, develops and markets the INGRES relational data base management system, integrated tools for workstation- and terminal-based programmers, and connectivity products for the open system market. This unit accounted for 59% ($254.9 million) of fiscal 1992 revenue.

  - The acquisition of Ingres was completed in October 1990 for approximately $123 million in cash.

  - Ingres had approximately 1,200 employees at the time of the acquisition and revenue of $157 million for the fiscal year ending June 1990.

  - In order to finance the acquisition, The ASK Group sold 5.6 million shares (30%) of its common stock to Electronic Data Systems (EDS) and Hewlett-Packard Company (HP) for an aggregate of $60 million in cash. EDS now holds 20% of The ASK Group and HP holds 10%.

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Financials

Total fiscal 1992 revenue reached $432.4 million, a 27% increase over fiscal 1991 revenue of $339.8 million.

- Fiscal 1991 financials include the results of Ingres from the date of its acquisition in October 1990. If the pre-acquisition period revenues for Ingres were included, fiscal 1992 revenue would have increased 13% over 1991.
- Net losses of $47.7 million for fiscal 1992 include amortization of Ingres acquisition-related expenses of $10.2 million and a one-time, non-cash write-down of intangible assets of $63.3 million. Excluding these expenses, income from operations for fiscal 1992 would have been $32.9 million, a 239% increase over $9.7 million for fiscal 1991.
- In the five-year summary that follows, financials prior to fiscal 1992 have been restated to reflect a change in the method of accounting for software maintenance revenues.

THE ASK GROUP, INC.
FIVE-YEAR FINANCIAL SUMMARY (a)
($ millions, except per share data)

	FISCAL YEAR				
ITEM	6/92	6/91	6/90	6/89	6/88
Revenue	$432.4	$339.8	$204.3	$184.2	$138.4
• Percent increase from previous year	27%	66%	11%	33%	N/A
Income (loss) before taxes	$(47.7) (b)	$4.6	$6.4	$18.9	$11.4
• Percent increase (decrease) from previous year	*	(28%)	(66%)	67%	N/A
Net income (loss)	$(47.7)	$0.1	$3.0	$12.2	$8.4
• Percent increase (decrease) from previous year	*	(97%)	(75%)	45%	N/A
Earnings (loss) per share	$(2.37)	$0.01	$0.23	$0.90	$0.63
• Percent increase (decrease) from previous year	*	(96%)	(74%)	27%	N/A

* *Percent change exceeds 1,000%.*

(a) *Financials prior to fiscal 1992 have been restated to reflect a change in the method of accounting for software maintenance revenues.*

(b) *Includes $10.2 million in acquisition-related items and $63.3 million from write-downs of intangible assets.*

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Ingres' revenue increases (a 94% increase based on the acquisition date, or a 54% increase for the full twelve months of fiscal 1991 compared to fiscal 1992) accounted for all of the increase in consolidated revenues for The ASK Group.

ASK Computer Systems' fiscal 1992 revenue declined 15%, with systems revenue decreasing 27% while service revenue grew 17%. Data 3 showed similar results, with total revenue and systems revenue declining 9% and 21%, respectively, while service revenue increased 32%.

- Systems revenue declined primarily due to the continuing de-emphasis of third-party hardware revenue and flat software license sales.

- Company management believes it will be increasingly difficult to sell hardware in conjunction with its applications software as the trend toward open systems software grows, and therefore does not expect this trend in hardware revenue to reverse. Because of this, these business units will be prospectively managed as software and services businesses.

International revenue, net of purchase accounting adjustments, increased 52% over fiscal 1991 and accounted for 49% of fiscal 1992 revenues as compared to 40% of revenue in fiscal 1991.

Product development expenditures were approximately $35.6 million (8% of revenue) in fiscal 1992, compared to $29.9 million (9% of revenue) in fiscal 1991, $16.5 million (8% of revenue) in fiscal 1990, and $13.4 million (7% of revenue) in fiscal 1989.

Revenue for the six months ending December 31, 1992 reached $197.3 million, an 8% increase over $181.9 million for the same period in 1991.

- Net losses were nearly $4.0 million, compared to net losses of $57.9 million for the same period a year ago, which include the one-time write-down of goodwill and intangible assets of $63.3 million.

- Software and services revenue was 88% of total revenue for the six months ending December 31, 1992, as compared to 81% of total revenue for the comparable period last year. This reflects the company's continuing emphasis on expanding its software and services revenue while decreasing the hardware component of its business.

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Employees

As of August 31, 1992, the company had 2,282 full-time employees, segmented as follows:

Marketing, sales, education, and field support	1,439
Product development	443
Finance and administration	400
	2,282

Competitors

In the applications area, ASK Computer Systems and Data 3 compete with D&B Software Services, HP, and IBM. In the RDBMS area, Ingres competes with Oracle Systems, Sybase, and Informix.

Key Products and Services

Approximately 59% of The ASK Group's fiscal 1992 revenue was derived from systems software products and associated support services, 24% from applications software and associated support services, and 17% from hardware.

A three-year summary of source of revenue, as provided by The ASK Group, follows:

THE ASK GROUP, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/92		6/91		6/90	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Systems (a)	$272.5	63%	$264.1	78%	$155.6	76%
Service (b)	159.9	37%	75.7	22%	48.7	24%
TOTAL	**$432.4**	**100%**	**$339.8**	**100%**	**$204.3**	**100%**

(a) Includes applications software, turnkey systems, and systems software sales.

(b) Includes maintenance, processing, education, and implementation services.

A further breakdown of revenue for fiscal 1992 and 1991 follows:

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THE ASK GROUP, INC.
TWO-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR			
	6/92		6/91	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
ASK Computer Systems				
- Software and services	$88.1	20%	$85.6	25%
- Hardware	69.6	16%	101.9	30%
	$158.0	36%	$187.5	55%
Data 3				
- Software and services	$15.2	4%	$14.8	4%
- Hardware	4.3	1%	6.1	2%
	$19.5	5%	$20.9	6%
Ingres (a)				
- Software and services	$254.9	59%	131.4	39%
TOTAL	**$432.4**	**100%**	**$339.8**	**100%**

(a) Includes the results of Ingres from the date of its acquisition in October 1990, less purchase accounting adjustments of $6.3 million in fiscal 1992 and $56.5 million in fiscal 1991.

Ingres Business Unit:

Ingres is a leading supplier of relational data base management, application development, and data access software products to users of Intel-based, DEC, HP, Sun Microsystems, and IBM computers, minicomputers, workstations, and PCs running proprietary and UNIX operating systems. In addition, Ingres products have been ported to operate with a range of computers from other computer system companies.

In November 1991, Ingres introduced version 6.4 of INGRES, its intelligent RDBMS that has a multiserver architecture designed to support client/server applications. There are currently over 84,500 installations of INGRES worldwide.

Application development tools for INGRES include the following:

- INGRES/VISION is an application code generator.

- INGRES/WindowView supports the use, modification, and creation of terminal applications on the workstation.

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- INGRES/Windows 4GL combines an object-oriented 4GL with a graphical user interface management system.

INGRES end-user decision support tools include the following:

- INGRES/Menu is an interactive menu supporting access to various INGRES RDBMS functions.

- INGRES/Query allows users to query and update data by filling in the blanks on a form.

- INGRES/Reports allows the user to lay out the format of a report visually on the screen as it would be seen on the printed page.

- INGRES/ISQL is an interactive, full screen facility for entry, execution, and display of SQL queries.

INGRES/OpenCASE is a program in which Ingres is working closely with its CASE partners to ensure that their products are fully integrated with the INGRES open Data Dictionary and that their products take advantage of Ingres' application development tools and INGRES RDBMS.

Ingres has joint development and/or joint marketing agreements with various software vendors to make available additional application development and end-user tools in conjunction with the INGRES RDBMS. Ingres also has relationships with various value-added resellers and systems integrators.

Jointly developed or third-party products offered by Ingres include the following:

- INGRES/PCLink (from Multiplex, Inc.) allows PC users to access the INGRES RDBMS on certain larger computers to extract and transfer data across a network and store the data in the user's PC files.

- GQL--Graphical Query Language (from Andyne) is an ad hoc query and reporting tool for Microsoft Windows-based PCs and Apple Macintosh computers.

INGRES access products enable users to access and use data on various computers and existing systems in their organizations. Access products include the following:

- INGRES/NET, a communications server

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- INGRES/GATEWAYS, allowing interconnections of Ingres' tools and RDBMS with other data bases and products (DEC's RMS and Rdb and IBM's DB2 and IMS)

- INGRES/STAR, a distributed data base manager

Support services offered through Ingres include the following:

- Technical Support:

  INGRESplus support is a technical support service offered to all INGRES end-user customers that provides ongoing software maintenance, product enhancements, and telephone consulting. The service is paid for in advance on an annual basis.

  INGRES Bulletin Board Support is an interactive software-error posting system for customers with minimum support requirements. No telephone support is included.

  INGRES Lifeline Support provides the end-user customer with updates and access to Ingres' on-line technical support knowledge base for customers with low support requirements.

  INGRES Account Support provides telephone support and proactive account management, including on-site customer visits to examine the end user's data base management system. This level of support is suited for customers with large or complex data base system installations.

  INGRES Customer Support provides expedited telephone support by a team of dedicated INGRES specialists. This level of support is offered primarily for customers who are in the active development or deployment stages.

- Consulting Services:

  Ingres offers a range of installation, data base design, application design, development, software planning, performance tuning, and data base management consulting services to assist in developing and deploying custom INGRES-based business solutions. These services may be combined with on-site education and technical support. Consulting Services are offered on a per-day or contract basis.

- Premium Support:

  This is a high-level support program to meet the complex support demands of Ingres' largest customers and those with mission-critical

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applications. A team of INGRES support specialists are dedicated to the customer in order to acquire an understanding of the customer's business applications and system environment. Other features of the service include personalized telephone support, on-site reviews, guaranteed response times to customer software error requests, quarterly on-site account reviews, a 24-hour/7 day-a-week telephone hotline, a toll-free 800 telephone number, client-based upgrade management consulting, and emergency on-site services. This service is priced on a contract basis and is only available in the U.S.

- Education Services:

  Formalized training is provided for INGRES customers at several regional locations throughout the U.S., Europe, and the Asia/Pacific. Customized education programs are also offered to meet specific customer needs. Pricing is based on a per-day or contract basis.

ASK Computer Systems (MANMAN and MAXCIM):

The MANMAN Information System is an on-line, interactive system that consists of integrated products for manufacturing, finance, marketing, customer service, decision support, and computer-integrated manufacturing functions. There are currently over 2,000 MANMAN clients worldwide. MANMAN products are summarized in Exhibit A.

- MANMAN is targeted to manufacturers in the batch production, JIT/repetitive, automotive (MANMAN/Automotive), job shop, and batch process manufacturing (MANMAN/Process) segments.

- MANMAN runs on HP 3000 and Precision Architecture 900 series computers (MANMAN HP) and DEC VAX series minicomputers (MANMAN VAX).

- During the first quarter of fiscal 1993, ASK released MANMAN/X, the company's new UNIX-based manufacturing business management system, that supports all aspects of manufacturing and works with multiple hardware platforms and data bases. It is particularly well suited for international markets, supporting translation and localization. It consists of 27 modules that automate the entire manufacturing process, including planning and costing, engineering control, project control, inventory, shop floor control, sales management, purchasing, finance, customer service, and maintenance.

- MANMAN is available to clients as a turnkey system, as software only, or via ASK's ASKNET processing service.

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EXHIBIT A

ASK COMPUTER SYSTEMS

MANMAN PRODUCTS

PRODUCT	DESCRIPTION
Manufacturing:	
MANMAN/MFG™	Manufacturing planning and execution
PLANMAN®/MFG	Forecasting and budgeting
MANMAN/REPETITIVE™	Planning and control of repetitive manufacturing
MANMAN/AUTOMOTIVE	Manufacturing system for auto suppliers
MANMAN/PROCESS	Process manufacturing system
MANMAN/PROJECTS™	Project management system
MANMAN/BARSCAN™	Bar code production system
MANMAN/QUALITY™	Product and process quality tracking and analysis system
MANMAN/TRACKER™	Lot tracking and reporting system
Connectivity:	
MANMAN/ENGINEER™	Interface between MANMAN and CAE/CAD systems
MANMAN/DATAPORT™	Interface between MANMAN and third-party shop floor data collection systems
Customer Service:	
MANMAN/OMAR™	Order management and accounts receivable system
MANMAN/SERVICEMAN®	Product service management tool
Finance and Administration:	
MANMAN/AP™	Accounts payable system
MANMAN/4GL™	General ledger
MANMAN/FA™	Fixed-assets
MANMAN/PAYROLL™	Payroll system
MANMAN/HR™	Human resources system
Decision Support:	
DecisionMaker®	Management reporting tool

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ASK's MAXCIM software, acquired with NCA in August 1987, consists of integrated modules for manufacturing, financial, sales and marketing, administrative, and information management applications designed to assist management in planning and controlling manufacturing operations. The software is available for DEC VAX computers. There are currently approximately 600 MAXCIM customers.

In February 1990, ASK announced its intention to introduce a new open systems product (ASK ADVANCE) with the goal of advances in both technology and functionality.

- With the introduction of MANMAN/X, ASK satisfies its immediate technology goals (a UNIX-based, 4GL application).
- The ASK ADVANCE program is continuing and is focused on integration of applications across a manufacturing enterprise. This effort is complementary to the MANMAN, MAXCIM, and MANMAN/X products.
- Under the MANMAN/X architecture and framework, the technological improvements from ADVANCE are being transferred to the MANMAN/X product family.

ASK Computer Systems offers the following support services for the MANMAN, MANMAN/X, and MAXCIM product lines:

- Warranty-Plus, for MANMAN and MAXCIM, is an extended maintenance software subscription service that provides customers with ongoing software maintenance, product enhancements, and telephone consulting regarding ASK software features and procedures. The service is billed to customers on a quarterly or annual basis, in advance.
- MANMAN/X ADVANTAGE offers its customers a variety of software installation, technical support, user training, and education services, which are performed for a separate charge either at ASK's offices or at the customer's site.
- ASK also offers site-specific technical consulting, including system installation, implementation, and integration of ASK software with other systems.

All computer hardware installation, maintenance, repair, and operating system software updates for ASK turnkey clients are provided by the hardware vendor. ASK is responsible only for the installation and maintenance of its software products.

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Data 3:

Data 3 markets and supports the SIM/400 customer-responsive Information System exclusively for IBM AS/400 computers. Data 3 is an authorized IBM Business Partner.

- SIM/400 supports manufacturing, accounting, bar code, distributed requirements planning (DRP), sales order management, multiple CPU distributed requirements planning, and EDI functions.

- SIM/Windows, released during fiscal 1992, supports cooperative processing between the AS/400 and PCs. It allows SIM/400 applications to run within the Microsoft Windows environment.

- There are currently over 750 SIM/400 customers worldwide.

Products developed and distributed in 1992 include the following:

- SIM/400 EDI is a new product for the electronic data interchange of purchase orders and sales orders between customers and vendors. This new product allows SIM/400 to meet the needs of companies whose customers and vendors require this form of business relationship.

- Open Application Architecture standardizes and simplifies the integration of third-party products (such as CAD, finite scheduling, and forecasting) to SIM/400.

- Multiple CPU Distributed Requirements Planning was developed for SIM/400 users with multiple sites and AS/400s at those sites. The advantages of SIM/400 Distributed Requirements Planning, which allows multiple separate companies to transfer demand planning and transportation requirements between entities, is now extended to a multiple CPU configuration.

Support services available through Data 3 include extended maintenance, software installation, technical support, user training, education services, site-specific technical consulting, and integration of software with other systems.

- Data 3 is repsonsible for the installation and maintenance of its oftware products. In addition, Data 3 offers ASKit, an on-line electronic customer support function of SIM/400 that provides access to a 24-hour-a-day question-and-answer data base for software problem determination, availability of electronic temporary program fixes, and SIM/400 and IBM operating system and program product announcements.

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SIM/400 is sold through direct and indirect sales channels. Affiliates in 22 countries provide localized software sales and support in their markets and have helped Data 3 to obtain major multinational accounts with multiple installations in separate countries. In each of the past two years, more than 60% of Data 3's unit placements have been outside of the U.S.

Industry Markets

The company's software and services revenue market distribution is as follows:

Manufacturing	34%
Business services	19%
Transportation/utilities	14%
Government	10%
Medical/education	7%
Banking and finance	6%
Other	10%
	100%

The remainder of revenue is generated from sales of HP, DEC, and IBM computers sold with ASK manufacturing applications.

The company provides its MANMAN, MAXCIM, and SIM/400 management information systems to discrete and process manufacturing companies. ASK manufacturing clients range from start-ups to Fortune 500 companies.

INGRES products are targeted to Fortune 1000 companies and other large organizations in the manufacturing, automotive, telecommunications, federal, and education sectors.

Approximately half of ASK's revenues are from the DEC market.

Geographic Markets

Approximately 53% of fiscal 1992 revenue was derived from North America and 47% from international sources. A three-year summary of source of revenue follows:

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THE ASK GROUP, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/92		6/91		6/90	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
North America	$230.5	53%	$212.3	63%	$170.6	84%
Europe	169.9	40%	103.5	30%	21.4	10%
Other	32.0	7%	24.0	7%	12.2	6%
TOTAL	**$432.4**	**100%**	**$339.8**	**100%**	**$204.3**	**100%**

The company has 84 sales and support offices in North America, Europe, and the Asia/Pacific region.

- U.S. offices are in Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Washington, and Wisconsin.

- Canadian offices are in Alberta, British Columbia, Ontario, and Quebec.

- Other international offices are in Australia, Belgium, England, France, Germany, Hong Kong, Ireland, Italy, Japan, Malaysia, the Netherlands, Singapore, Switzerland, Taiwan, and Thailand.

The company markets its products and services in North America, Europe, and the Asia/Pacific region through its own sales and marketing organization and those of its wholly-owned subsidiaries.

In addition, The ASK Group markets its products in certain countries primarily through distributors, including distributors in Austria, Brazil, Chile, Denmark, Eastern Europe, Finland, Greece, India, Indonesia, Israel, Japan, Latin America, Malaysia, Mexico, the Middle East, New Zealand, Norway, the People's Republic of China, Poland, Portugal, Spain, Sweden, and Turkey.

SIM/400 is also marketed through a network of 16 affiliates in 22 countries, including Canada, France, Germany, Ireland, Israel, Italy,

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Malaysia, the Netherlands, Portugal, Singapore, South Africa, South Korea, Thailand, and the U.K.

- During fiscal 1992, Data 3 implemented a new independent marketing representative program that permits distribution and marketing of SIM/400 throughout the U.S.

- Current independent marketing representatives are in California, Colorado, and Oregon, with more representatives to be added in fiscal 1993 to augment Data 3's direct sales organization.

Ingres' products are also marketed through systems partners and value-added resellers (VARs) that combine a ported version of INGRES RDBMS or the standard run-time Embedded Version with their own computer hardware or software application packages to create a unique ported product (systems partners) or derivative product (VARs).

Computer Hardware

The company's data center in Sunnyvale (CA) has 20 HP 3000, 20 DEC VAX, one IBM System 38, and three IBM AS/400 systems installed in support of program development, customer and internal support, and ASKNET processing services.

Effective November 1990, the ASKNET remote processing computer center is operated under a long-term contract by Electronic Data Systems.

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THE ASK COMPANIES
2440 W. El Camino Real
P.O. Box 7640
Mountain View, CA 94039-7640
(415) 969-4442

Sandra L. Kurtzig, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 2,142 (9/91)
Total Revenue, Fiscal Year End 6/30/91: $343,933,000

The Company

The ASK Companies develop, market, and support manufacturing and financial management applications for Hewlett-Packard, DEC, and IBM midrange computers which are available as software products, turnkey systems, and via processing services. As a result of the acquisition of Ingres Corporation, ASK also provides relational data base management systems (RDBMSs) and application development tools for open systems.

During the first quarter of fiscal 1992, ASK restructured its operations into The ASK Companies, which includes a corporate function and three decentralized business units, each with worldwide responsibility for product development, marketing, sales and support, accounting, and administration for their respective product lines. The three business units include the following:

- ASK Computer Systems, based in Mountain View (CA) with 900 employees, is responsible for manufacturing applications, including the MANMAN[R] and MAXCIM product lines for HP and DEC systems and the upcoming ADVANCE product family.

- The Data 3 Systems business unit, based in Santa Rosa (CA) with 200 employees, develops and markets the SIM/400 integrated manufacturing application for the IBM AS/400 market.

- The Ingres business unit, headquartered in Alameda (CA) with 1,100 employees, develops and markets the INGRES relational data base management system, integrated tools for workstation- and terminal-based programmers, and connectivity products for the open system market.

  - ASK completed the acquisition of Ingres in October 1990 for approximately $123 million in cash.

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- Ingres had approximately 1,200 employees at the time of the acquisition and revenue of $157 million for the fiscal year ending June 1990.

- In order to finance the acquisition, ASK sold 5.6 million shares (30%) of its common stock to Electronic Data Systems (EDS) and Hewlett-Packard Company (HP) for an aggregate of $60 million in cash. EDS now holds 20% of ASK and HP holds 10%.

Total fiscal 1991 revenue reached $343.9 million, a 66% increase over fiscal 1990 revenue of $207.5 million.

- Operating income before goodwill was $23.1 million, up 95% from fiscal 1990. Goodwill amortization expenses for fiscal 1991 were $11.1 million, compared to $3.9 million in fiscal 1990, and $2.4 million in fiscal 1989. The increase in goodwill was attributed to the acquisitions of Ingres and Data 3.

- A substantial portion of these expenses were not deductible for tax purposes and contributed to an effective tax rate of 69% in fiscal 1991. This resulted in net income of $2.7 million for fiscal 1991, compared to $5.0 million for fiscal 1990.

- In the five-year summary that follows, financials for Ingres have been included from the date of its acquisition in October 1990:

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THE ASK COMPANIES
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	6/91	6/90	6/89	6/88	6/87
Revenue	$343.9	$207.5	$186.3	$142.4	$98.3
· Percent increase from previous year	66%	11%	31%	45%	29%
Income before taxes	$8.7	$9.6	$21.0	$15.4	$12.5
· Percent increase (decrease) from previous year	(9%)	(55%)	36%	23%	28%
Net income	$2.7	$5.0	$13.5	$10.8	$8.0
· Percent increase (decrease) from previous year	(47%)	(63%)	25%	35%	36%
Earnings per share	$0.15	$0.37	$1.00	$0.82	$0.62
· Percent increase (decrease) from previous year	(59%)	(63%)	22%	32%	35%

Company management attributes the strong revenue growth in fiscal 1991 to the acquisition of Ingres and to increased sales of the INGRES data base and development tools, particulary in Europe.

- Ingres accounted for 38% ($130 million) of the company's net consolidated revenue in fiscal 1991 and 96% of the increase in revenue over fiscal 1990.
  - INGRES product sales for the fiscal year ending June 30, 1991 increased about 20% compared to its previous fiscal year results.
- Data 3 (SIM/400) accounted for the remainder of the increase in revenues during fiscal 1991. During the fourth quarter of fiscal 1991, manufacturing applications product sales rebounded, due to resumption of demand following the end of the Gulf War, increased confidence in ASK's MANMAN, MAXCIM, and SIM/400 products, and a seasonal fourth-quarter rise in this business.

Product development expenditures were approximately $29.9 million (9% of revenue) in fiscal 1991, compared to $16.5 million (8% of revenue) in fiscal 1990, and $13.4 million (7% of revenue) in fiscal 1989.

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As of August 31, 1991, the company had 2,142 full-time employees, segmented as follows:

Marketing, sales, education, and field support	1,514
Product development	377
Finance and administration	251
	2,142

In the applications area, ASK competes with D&B Software Services, Hewlett-Packard, and IBM. In the RDBMS area, Ingres competes with Oracle Systems, Sybase, and Informix.

Key Products and Services

INPUT estimates that approximately 53% of ASK's fiscal 1991 revenue was derived from applications software products and turnkey systems, 38% from systems software products, 6% from professional services, and 3% from processing services.

A three-year summary of source of revenue, as provided by ASK, follows:

THE ASK COMPANIES
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/91		6/90		6/89	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Systems (a)	$264.1	77%	$155.6	75%	$144.8	78%
Service (b)	79.8	23%	51.9	25%	41.5	22%
TOTAL	**$343.9**	**100%**	**$207.5**	**100%**	**$186.3**	**100%**

(a) Includes applications software, turnkey systems, and systems software sales.

(b) Includes maintenance, processing, education, and implementation services.

The company provides its MANMAN, MAXCIM, and SIM/400 management information systems to discrete and process manufacturing companies. As of July 31, 1991, the company's products were used worldwide at approximately 3,200 manufacturing sites.

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ASK Computer Systems:

The MANMAN Information System is an on-line, interactive system that consists of integrated products for manufacturing, finance, marketing, customer service, decision support, and computer-integrated manufacturing functions. MANMAN products are summarized in Exhibit A.

- MANMAN is targeted to manufacturers in the batch production, JIT/repetitive, automotive, job shop, and batch process manufacturing segments.
- MANMAN runs on HP 3000 and Precision Architecture 900 series computers and DEC VAX series minicomputers.
- MANMAN is available to clients as a turnkey system, software only, or via ASK's ASKNET processing service.
- There are currently over 2,000 MANMAN clients worldwide.

ASK's MAXCIM software, acquired with NCA in August 1987, consists of integrated modules for manufacturing, financial, sales and marketing, administrative, and information management applications designed to assist management in planning and controlling manufacturing operations. The software is available for DEC VAX computers. There are currently approximately 600 MAXCIM customers.

ASK offers clients access to its MANMAN and MAXCIM software through its ASKNET remote computing service.

- ASKNET serves manufacturing companies whose current size and growth rate do not presently justify purchase of in-house turnkey systems. These customers are prime candidates for later conversion to in-house systems.
- ASK's data center in Sunnyvale (CA) has HP and DEC systems installed in support of its on-line remote processing services. Effective November 1990, Electronic Data Systems took over the day-to-day operations of the ASK data center. There currently are approximately 80 processing clients.

ASK is currently developing the company's first client/server application, ASK ADVANCE. Scheduled to begin delivery in 1991, ASK ADVANCE is aimed at increasing ASK's penetration in the manufacturing market as well as providing independent software developers and VARs a template from which to develop client/server applications.

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EXHIBIT A

ASK COMPUTER SYSTEMS

MANMAN PRODUCTS

PRODUCT	DESCRIPTION
Manufacturing:	
MANMAN/MFG™	Manufacturing planning and execution
PLANMAN®/MFG	Forecasting and budgeting
MANMAN/REPETITIVE™	Planning and control of repetitive manufacturing
MANMAN/AUTOMOTIVE	Manufacturing system for auto suppliers
MANMAN/PROCESS	Process manufacturing system
MANMAN/PROJECTS™	Project management system
MANMAN/BARSCAN™	Bar code production system
MANMAN/QUALITY™	Product and process quality tracking and analysis system
MANMAN/TRACKER™	Lot tracking and reporting system
Connectivity:	
MANMAN/ENGINEER™	Interface between MANMAN and CAE/CAD systems
MANMAN/DATAPORT™	Interface between MANMAN and third-party shop floor data collection systems
Customer Service:	
MANMAN/OMAR™	Order management and accounts receivable system
MANMAN/SERVICEMAN®	Product service management tool
Finance and Administration:	
MANMAN/AP™	Accounts payable system
MANMAN/GL™	General ledger
MANMAN/FA™	Fixed-assets
MANMAN/PAYROLL™	Payroll system
MANMAN/HR™	Human resources system
Decision Support:	
DecisionMaker®	Management reporting tool

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- ASK ADVANCE will use INGRES data base technology and graphical development tools to provide a new generation of integrated manufacturing applications in addition to new horizontal financial and accounting applications for UNIX-based client/server computing systems.

- The first module of ASK ADVANCE, a general ledger, will be available in the fall of 1991.

Data 3 Systems Business Unit:

Data 3 Systems markets and supports the SIM/400 Information System for IBM AS/400 computers.

- SIM/400 is available as a turnkey system or software product. It supports manufacturing, accounting, bar code, distributed requirements planning (DRP), and sales order management functions.

- Data 3 Systems is a domestic authorized Industry Remarketer of IBM business products, and an international value-added reseller of INTERMEC bar code data collection hardware.

- There are currently over 600 SIM/400 customers worldwide.

Support Services:

ASK Computer Systems and Data 3 offer the following support services for the MANMAN, MAXCIM, and SIM/400 product lines:

- Warranty-Plus, an extended maintenance software subscription service, provides customers with normal software maintenance, product enhancements, and unlimited telephone consulting regarding ASK software features and procedures. The service is billed to customers on a quarterly or annual basis, in advance. Virtually all of ASK's customers purchase the Warranty-Plus service.

- ASK offers its customers a variety of software installation, technical support, user training, and education services, which are performed for a separate charge either at ASK's offices or at the customer's site. In addition to MANMAN training, more than 30 standard training courses ranging from systems management to MRP are available.

- ASK Assistance™ services offer site-specific technical consulting, including system installation, implementation, and integration of ASK software with other systems.

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All computer hardware installation, maintenance, repair, and operating system software updates for ASK turnkey clients are provided by the hardware vendor. ASK is responsible only for the installation and maintenance of its software products.

INGRES Business Unit:

The INGRES relational data base management system has been licensed to 13,000 sites.

INGRES 6.3, introduced in 1989, is the company's current version of INGRES. INGRES 6.3 is an intelligent relational data base management system that has a multiserver architecture designed to support client/server applications.

- It is the first RDBMS to manage data, knowledge (business rules), and objects (non-conventional data types).
- INGRES 6.4 was announced in November 1991.

Application development tools for INGRES include the following:

- INGRES/4GL, an applications development system for developing applications rapidly without conventional coding
- INGRES/Vision (introduced in March 1991), a visual, terminal-based application code generator
- INGRES/Windows 4GL, a workstation-based visual programming tool and fourth-generation language development system
- INGRES/Forms, for interactively defining, creating, and editing forms to be used by applications
- INGRES/Reports, for visual formatting of reports
- INGRES/Graphics, for displaying data visually with many graph types, including bar charts, pie charts, multiline plots, and scatter plots
- INGRES/Embedded Languages, which aids programmers in a conventional language to make SQL commands within the regular program

INGRES end-user tools include the following:

- INGRES/Menu, an interactive menu

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- INGRES/Query, for expressing queries and performing transactions by filling in blanks on a form

- INGRES/PC Link, a micro-mainframe link

INGRES open access products enable end-user applications to run without change across multiple networks, machine architectures, data base managers, and distributed single-point data sources. Open access products include the following:

- INGRES/NET, a communications server

- INGRES/GATEWAYS, interconnections to IBM data on IBM's IMS non-relational data base and the DB2 and SQL/DS relational data bases

- INGRES/STAR, a distributed data base manager

INGRES desktop products enable DOS, OS/2, UNIX, and Macintosh desktop computers to access INGRES running on host computers. Products include:

- INGRES Tools for DOS

- INGRES Server for OS/2

- Support for DAL (Data Access Language) and GQL (Graphical Query Lanaguage) on the Macintosh

The company has OEM agreements for INGRES products with BiiN, British Telecommunications, PLC, Concurrent Computer, Data General, DEC, ELXSI, Gould, Bull, IBM, International Computers, MIPS Computer Systems, Motorola, Pyramid Technology, Sequent, Sun, Tandem, Teradata, and Unisys.

- To date, 30,000 units of various versions of INGRES have been distributed by DEC as Ultrix/SQL.

- The Santa Cruz Operation also remarkets INGRES in Open Desktop. Since March 1990, 10,000 units of INGRES have shipped in Open Desktop with products from Siemens, NCR, Wang, NEC, Altos, and Compaq.

Industry Markets

The company's software and services revenue has the following market distribution:

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Manufacturing	34%
Business services	19%
Transportation/utilities	14%
Government	10%
Medical/education	7%
Banking and finance	6%
Other	10%
	100%

The remainder of revenue is generated from sales of HP, DEC, and IBM computers sold with ASK manufacturing applications.

ASK manufacturing clients range from start-ups to Fortune 500 companies.

INGRES products are targeted to Fortune 1000 companies and other large organizations in the manufacturing, automotive, telecommunications, federal, and education sectors.

Approximately half of ASK's revenues are from the DEC market.

Geographic Markets

Approximately 63% of fiscal 1991 revenue was derived from North America and 37% from international sources. A three-year summary of source of revenue follows:

THE ASK COMPANIES
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/91		6/90		6/89	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
North America	$216.1	63%	$173.1	83%	$158.2	85%
Europe	103.8	30%	22.2	11%	20.3	11%
Other	24.0	7%	12.2	6%	7.7	4%
TOTAL	**$343.9**	**100%**	**$207.5**	**100%**	**$186.2**	**100%**

The company's products are distributed through its worldwide direct sales force as well as through distribution agreements with VARs, OEMs, integrators, and others.

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The company has over 90 sales and support offices in the U.S., Canada, the U.K., France, Italy, the Netherlands, Switzerland, Germany, Australia, Singapore, Thailand, and Taiwan. ASK products are also distributed in Japan and the People's Republic of China by DEC.

Computer Hardware

The company's data center in Sunnyvale (CA) has 20 HP 3000, 20 DEC VAX, one IBM System 38, and three IBM AS/400 systems installed in support of program development, customer and internal support, and ASKNET processing services.

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ASK COMPUTER SYSTEMS, INC.
2240 W. El Camino Real
P.O. Box 7640
Mountain View, CA 94039-7640
(415) 969-4442

Ronald Braniff, President and CEO
Public Corporation, NASDAQ
Total Employees: 801 (9/89)
Total Revenue, Fiscal Year End
6/30/89: $186,293,000

The Company

ASK Computer Systems, incorporated in 1974, develops, markets, and supports the MANMAN[R] Information System, an integrated management information system for the manufacturing industry. MANMAN is available as a turnkey system, through the company's ASKNET remote processing service, or as a software product.

- On September 21, 1989, ASK acquired Data 3 Systems, Inc. of Santa Rosa (CA) for approximately $19 million in cash. The acquisition was accounted for as a purchase.
  - Data 3 Systems, a privately held company, develops and markets integrated manufacturing software systems and support services for IBM AS/400 and System 38 computers.
  - Data 3 Systems has over 500 customer sites worldwide. The company had 115 employees at the time of the acquisition and revenue of over $16 million for the fiscal year ending June 30, 1989.
  - Data 3 Systems now operates from its offices in Santa Rosa as an independent division of ASK.
- As a result of the acquisition of NCA Corporation of Santa Clara (CA) in August 1987, ASK continues to enhance and support the MAXCIM™ line of manufacturing/financial planning and control applications for DEC VAX systems.

ASK's fiscal 1989 revenue reached $186.3 million, a 31% increase over fiscal 1988 revenue of $142.4 million. Net income rose 25%, from $10.8 million in fiscal 1988, to $13.5 million in fiscal 1989. In the five-year summary that follows, financials do not include Data 3 Systems, which was acquired subsequent to the end of fiscal 1989:

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ASK COMPUTER SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	6/89	6/88	6/87	6/86	6/85
Revenue	$186,293	$142,414	$98,305	$76,019	$79,233
• Percent increase (decrease) from previous year	31%	45%	29%	(4%)	22%
Income before taxes	$21,047	$15,422	$12,534	$9,816	$14,709
• Percent increase (decrease) from previous year	36%	23%	28%	(33%)	35%
Net income	$13,490	$10,795	$8,001	$5,889	$7,949
• Percent increase (decrease) from previous year	25%	35%	36%	(26%)	29%
Earnings per share	$1.00	$0.82	$0.62	$0.46	$0.65
• Percent increase (decrease) from previous year	22%	32%	35%	(29%)	23%

ASK management attributes increases in revenue and net income primarily to a higher volume of sales and service domestically. Growth also reflects additional product offerings, expansion in international markets, and the fiscal 1988 acquisition of NCA.

Product development expenditures were approximately $13.4 million (7% of revenue) in fiscal 1989, $11.9 million (8% of revenue) in fiscal 1988, and $8.3 million (8% of revenue) in fiscal 1987. Additional capitalized software development costs were $869,000 in fiscal 1989, $1.3 million in fiscal 1988, and $777,000 in fiscal 1987.

Revenue for the three months ending September 30, 1989 was $38 million, a 3% decrease from $39.3 million for the same period in 1988. Net income for the period was $552,000, a 77% decrease from $2.4 million for the same period a year ago.

- The company experienced a generally lower level of demand in its market and some delays in customer approvals during the quarter. ASK management attributes the results principally to a lower level of capital spending in the manufacturing sectors of the U.S. economy.

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- Lower income reflects the combined effects of lower than anticipated revenue with comparatively larger operating expenses. Selling, general, and administrative expenses were $15 million, compared to $13.2 million for the same period a year ago. The increase is due mainly to international expansion, growth in field sales and services organizations, general increases in salaries, and costs associated with a new advertising campaign.

As of August 31, 1989, ASK had 801 full-time employees, segmented as follows:

Marketing, sales, education, and field support	478
Product development	193
ASKNET operations	20
Finance and administration	110
	801

The company currently has over 915 employees (including 115 Data 3 Systems employees).

ASK competes with IBM, Hewlett-Packard (HP), and Management Science America (Dun & Bradstreet) in the software product/turnkey system market. In the processing services area, the primary competitor is Xerox Computer Services.

Key Products and Services

A three-year summary of ASK's source of revenue follows:

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ASK COMPUTER SYSTEMS, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/89		6/88		6/87	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Turnkey systems and software	$144.8	78%	$108.3	76%	$77.5	79%
Warranty-Plus	22.4	12%	18.5	13%	9.8	10%
Processing, education, systems integration, and implementation	19.1	10%	15.6	11%	11.0	11%
TOTAL	**$186.3**	**100%**	**$142.4**	**100%**	**$98.3**	**100%**

ASK provides its management information systems to discrete and process manufacturing companies. The systems are available on a turnkey basis, as software products, or via the ASKNET processing service. There are currently over 3,000 ASK customer sites worldwide.

- ASK systems operate on HP, DEC, and IBM midrange computers.
- ASK provides its software products under a perpetual fully-paid license agreement to be used on a specific serial numbered computer.
- All computer hardware installation, maintenance, repair, and operating system software updates for ASK turnkey clients are provided by the hardware vendor. ASK is responsible only for the installation and maintenance of its software products.

ASK's primary offering is the MANMAN Information System, an on-line, interactive system that consists of integrated products for manufacturing, finance, marketing, customer service, decision support, and computer-integrated manufacturing functions. MANMAN is available to clients as a turnkey system, software only, or as a processing service.

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- MANMAN is targeted to manufacturers in the batch production, JIT/repetitive, automotive, job shop, and batch process manufacturing segments.

- MANMAN runs on HP 3000 and Precision Architecture 900 series computers and DEC VAX series minicomputers.

- There are currently over 1,800 MANMAN clients worldwide.

MANMAN products are integrated by a common data base. Each product can be used independently or integrated with one or more MANMAN products. MANMAN currently consists of the following products:

Manufacturing:

- MANMAN/MFG™ is designed to manage all aspects of manufacturing planning and execution, including inventory control, bill of materials/engineering design, work-in-progress/shop floor control, purchasing, material requirements planning, capacity requirements planning, master production scheduling, and cost accounting.

- PLANMAN®/MFG is a forecasting and budgeting product that links minicomputer-based manufacturing data to microcomputers for sales analysis and forecasting, and provides an interface to certain spreadsheets.

- MANMAN/REPETITIVE™ provides for the planning and controlling of high-volume, low inventory, and short lead time manufacturing. The product supports build rate scheduling, work area inventory replenishment, and work-in-progress inventory consumption and costing.

- MANMAN/PROJECTS™ is an integrated project management system that monitors progress and tracks time and materials costs expended on projects.

- MANMAN/BARSCAN™ is an integrated bar code production system that permits fast and accurate data entry. It prints bar codes on various turnaround documents, creates custom bar code menus, and outputs bar coded labels.

- MANMAN/QUALITY™ tracks and analyzes product and process quality.

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- MANMAN/TRACKER™ provides lot tracking and reporting requirements, from purchase order receipt through production to final shipment.

Connectivity:

- MANMAN/ENGINEER™ integrates the engineering and manufacturing departments by providing an interface between MANMAN and CAE/CAD systems. This product has all the bill of material, engineering change control, and part number translation functionally contained in MANMAN/MFG, but in a separate work area data base.

- MANMAN/DATAPORT™ allows information to be transferred directly between MANMAN and certain third-party shop floor data collection systems. It also provides for electronic interplant inventory transmissions.

Customer Service:

- MANMAN/OMAR™ is an order management and accounts receivable system that provides automated customer quotation, order entry, billing, and sales analysis functions.

- MANMAN/SERVICEMAN® is a product service management tool that maintains customer, equipment, and contract information, tracks field service calls, monitors depot repair activity, and facilitates telephone/technical support operations.

Finance and Administration:

- MANMAN/AP™ is an accounts payable system that is fully integrated with MANMAN purchasing and general ledger functions.

- MANMAN/GL™ provides general ledger, budget maintenance, consolidations, journal processing, and financial statement presentation.

- MANMAN/FA™ is a fixed-assets product that manages depreciable and non-depreciable assets from acquisition through retirement.

- MANMAN/PAYROLL™ calculates and processes payroll checks and tracks employee, tax, and deduction information.

- MANMAN/HR™ is a human resources product that tracks employee activity, administers benefits, supports compliance

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with government regulations, and controls the recruitment, application, and hiring process.

Decision Support:

- DecisionMaker[R] is a management reporting tool that summarizes key manufacturing, customer service, and financial information on-line and creates exception reports for high-level management.

- Users can modify MANMAN's standard reports or create their own using Cognos' QUIZ on the HP 3000 or Interactive Software Systems' UDMS on the DEC VAX.

ASK's MAXCIM software, acquired with NCA in August 1987, consists of integrated modules for manufacturing, financial, sales and marketing, administrative, and information management applications designed to assist management in planning and controlling manufacturing operations. The software is available for DEC VAX computers.

- ASK continues to enhance and support the MAXCIM product line for its existing base of approximately 600 customers. MAXCIM is also available on ASKNET as a processing service.

- ASK currently actively markets MANMAN (rather than MAXCIM) to prospective new customers.

ASK offers clients access to its MANMAN and MAXCIM software through its ASKNET remote computing service.

- ASKNET serves manufacturing companies whose current size and growth rate do not presently justify purchase of in-house turnkey systems. These customers are prime candidates for later conversion to in-house systems.

- ASK currently operates approximately 10 HP and DEC systems in support of its on-line remote processing services. There currently are approximately 100 processing clients.

ASK's Data 3 Systems division markets and supports manufacturing, accounting, bar code and distributed requirements planning (DRP), and processing planning systems for the IBM AS/400 and System/38.

- Data 3 Systems targets its products to midrange companies (firms with annual sales of $10 million or more) and medium-sized divisions of large corporations.

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- Products include the following:
  - SIM/400 manufacturing, financial, bar code, and DRP packages are available for IBM AS/400 systems.
  - MRPS 38 manufacturing, financial, process, bar code, and DRP packages are available for IBM System/38 computers.
- Data 3 Systems is a domestic authorized Industry Remarketer of IBM business products, and an international Value Added Reseller of INTERMEC bar code data collection hardware.
- There are currently over 500 installations of Data 3 Systems' products worldwide.

ASK offers the following support services for its MANMAN and MAXCIM product lines:

- Warranty-Plus, an extended maintenance software subscription service, provides customers with normal software maintenance, product enhancements, and unlimited telephone consulting regarding ASK software features and procedures. The service is billed to customers on a quarterly or annual basis, in advance. Virtually all of ASK's customers purchase the Warranty-Plus service.
- ASK offers its MANMAN and MAXCIM customers a variety of software installation, technical support, user training, and education services, which are performed for a separate charge either at ASK's offices or at the customer's site. In addition to MANMAN training, more than 30 standard training courses ranging from systems management to MRP are available.
- ASK Assistance™ services include site-specific technical consulting, including system installation, implementation, and integration of ASK software with other systems.

ASK currently intends to extend/improve its product line in the following areas:

- Extend MANMAN systems capabilities to better handle the needs of manufacturers using repetitive/JIT manufacturing methods.
- Develop applications using a relational data base.
- Better address the needs of batch process manufacturers, and manufacturers who supply the automotive industry.

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- Improve the connectibility of ASK's products to those of other manufacturing-related software products.
- Expand the current systems to incorporate the needs of multi-site, vertically integrated manufacturing companies.

Industry Markets

One hundred percent of ASK's revenue is derived from the discrete and process manufacturing industries.

ASK clients range from start-ups to Fortune 500 companies.

Many Data 3 Systems customers are Fortune 500 companies, with 31 of these companies having attained Class "A" status.

Geographic Markets

Approximately 85% of ASK's fiscal 1989 revenue was derived from North America and 15% from international sources. A three-year summary of source of revenue follows:

ASK COMPUTER SYSTEMS, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/89		6/88		6/87	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
North America	$158.2	85%	$124.3	88%	$89.9	92%
Europe	20.3	11%	13.5	9%	6.1	6%
Other	7.7	4%	4.6	3%	2.3	2%
TOTAL	**$186.2**	**100%**	**$142.4**	**100%**	**$98.3**	**100%**

ASK has over 40 sales and support offices worldwide.

ASK markets the MANMAN and MAXCIM products in the U.S., Australia, Canada, the U.K., France, Germany, Malaysia, the Netherlands, Singapore, Sweden, Switzerland, Taiwan, and Thailand through its own marketing organization. Distributors are located in India, Japan, and the People's Republic of China. MAXCIM products are also represented by distributors in foreign markets including France and Australia.

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Data 3 Systems also has affiliates to market its products outside the U.S.

Computer Hardware

ASK's data center in Los Altos (CA) has 17 HP 3000 and 19 DEC VAX systems installed in support of program development, customer and internal support, and ASKNET processing services.

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COMPANY PROFILE

ASK COMPUTER SYSTEMS, INC.
2440 W. El Camino Real
Mountain View, CA 94040
(415) 969-4442

Sandra Kurtzig, Chairman
Ronald Braniff, President and CEO
Public Corporation, OTC
Total Employees: 667 (9/1/87)
Total Revenue, Fiscal Year End
6/30/87: $98,304,695

THE COMPANY

- ASK Computer Systems, incorporated in 1974, develops, markets, and supports the MANMAN® Information System, an integrated management information system for the manufacturing industry. MANMAN is available as a turnkey system through the company's ASKNET® remote processing service, or as a software product.

  - As a result of the acquisition of NCA Corporation of Santa Clara (CA) in August 1987, ASK now also offers the MAXCIM™ line of software products for manufacturing/financial planning and control applications.

    - NCA, acquired for a total cash value of approximately $43.8 million, had 118 employees at the time of the acquisition. The company had revenue of $20.8 million and net losses of $2.5 million for 1986.

    - NCA will operate as a wholly owned subsidiary of ASK.

- Fiscal 1987 revenue reached $98.3 million, a 29% increase over fiscal 1986 revenue of $76 million. Net income rose 36% from $5.9 million in fiscal 1986 to $8 million in fiscal 1987. A five-year financial summary follows:

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ASK COMPUTER SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/87	6/86	6/85	6/84	6/83
Revenue	$ 98,305	$ 76,019	$ 79,233	$ 65,076	$39,388
. Percent increase (decrease) from previous year	29%	(4%)	22%	65%	58%
Income before taxes	$ 12,534	$ 9,816	$ 14,709	$ 10,922	$ 6,659
. Percent increase (decrease) from previous year	28%	(33%)	35%	64%	37%
Net income	$ 8,001	$ 5,889	$ 7,949	$ 6,142	$ 3,905
. Percent increase (decrease) from previous year	36%	(26%)	29%	57%	45%
Earnings per share	$ 0.62	$ 0.46	$ 0.65	$ 0.53	$ 0.35
. Percent increase (decrease) from previous year	35%	(29%)	23%	51%	30%

- ASK management attributes the fiscal 1987 increases in revenue and net income to a higher volume of sales and service, including the company's expansion in international markets.

  - International revenue reached approximately $10 million in fiscal 1987, a 125% increase over $4.4 million for fiscal 1986.

    - During fiscal 1987 ASK established sales and service subsidiaries in France, Germany, and Southeast Asia.

    - The company also established ASK-owned operations in the U.K. with the acquisition of the MANMAN business base from Scicon Limited (previously an ASK U.K. distributor). This business was purchased in December 1986 for approximately $2.4 million in cash.

  - ASKNET processing services revenue continued to decline in fiscal 1987 due to large users converting to turnkey systems and a number of other customers discontinuing the service due to their own financial difficulties.

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- ASK management attributes the decrease in fiscal 1986 revenue and net income primarily to a general softness in the market for computer-based products and services as U.S. manufacturing firms continued to experience a decline in business and a reduced level of capital spending.

- Product development expenditures were approximately $8.3 million (8% of revenue) in fiscal 1987, $8.4 million (11% of revenue) in fiscal 1986, and $6.6 million (8% of revenue) in fiscal 1985. Additional capitalized software development costs were $776,968 in fiscal 1987 and $665,315 in fiscal 1986.

  - The flat level of spending in fiscal 1987 was planned by the company to bring the product development expenditure level back to a range of approximately 8% of revenue.

- Revenue for the six months ending December 31, 1987 was $59 million, a 42% increase over $41.5 million for the same period in 1986. Net income was $4.1 million, compared to $3.8 million for the same period a year ago.

- As of September 1, 1987, ASK had 667 full-time employees (including 118 from NCA), segmented as follows:

Marketing/sales/education/ customer support	363
Product development	200
ASKNET operations	25
Finance and administration	79
	667

- ASK competes with IBM, Hewlett-Packard, Management Science America, and Cullinet in the software product and turnkey systems market. In the processing services area, the primary competitor is Xerox Computer Services.

KEY PRODUCTS AND SERVICES

- A three-year summary of ASK's source of revenue follows ($ millions):

FISCAL YEAR / ITEM	6/87		6/86		6/85	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Turnkey systems and software	$77.5	79%	$57.3	75%	$60.7	77%
Software support and customer education	13.0	13	9.6	13	8.0	10
Processing services	7.8	8	9.1	12	10.5	13
Total	$98.3	100%	$76.0	100%	$79.2	100%

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- ASK's primary offering is the MANMAN Information System, an on-line, interactive, menu-driven manufacturing and financial control system for manufacturers. MANMAN is available to clients as a turnkey system, software only, or as a processing service.

  - There are currently over 1,200 manufacturing sites worldwide using MANMAN systems.

  - MANMAN software operates on all models of the HP 3000 Series minicomputer and DEC VAX computers.

- MANMAN's modules are integrated through a common data base using HP's IMAGE and DEC's DBMS-32 data base management systems. While the products can be used independently, typical customers acquire three or four products as an integrated system.

  - MANMAN/MFG (Manufacturing Management) consists of eight application modules which assist management in performing the following functions:

    - Inventory control.
    - Bill of materials/engineering design.
    - Work-in-progress/shop floor control.
    - Purchasing.
    - Material requirements planning.
    - Capacity requirements planning.
    - Master production scheduling.
    - Cost accounting.

  - MANMAN/OMART.M. (Order Management and Accounts Receivable) provides the capability for performing sales order entry and generating order acknowledgements, backlog reports, shipping documents, invoices, accounts receivable, cash receipts, and sales analysis.

  - MANMAN/QUALITYT.M. (introduced in fiscal 1985) provides the capability to track and analyze product and process quality with Inspection Data Definition, Data Collection, Statistical Analysis, and Reporting modules.

  - MANMAN/REPETITIVET.M. (introduced in fiscal 1985) provides for the planning and controlling of high volume, low inventory, and short lead time manufacturing with three modules: Build Rate Scheduling; Work Area Inventory Replenishment; and WIP Inventory Consumption and Costing.

  - MANMAN/DecisionMaker® (introduced in fiscal 1985) summarizes key manufacturing, marketing, and financial information for top and middle level managers.

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- MANMAN/BARSCAN™ (introduced in fiscal 1985) facilitates fast and accurate data entry, prints bar coded shop floor documents, and creates user-defined bar code menus.

- MANMAN/PROJECTS™ (introduced in fiscal 1985) monitors progress and track time, materials and costs expended on projects through Work Breakdown Structure, Project Planning, Cost Collection, and Project Reporting modules. The product is targeted to job shop manufacturing applications.

- PLANMAN® /MFG™ (introduced in fiscal 1985) is a forecasting and budgeting product that links minicomputer-based manufacturing data to microcomputers for sales analysis and forecasting and provides an interface to certain spreadsheet-type products.

- MANMAN/AP™ (Accounts Payable) provides for voucher processing, cash disbursements (including generation of checks), controls, and analysis.

- MANMAN/GL™ (General Ledger) provides for general ledger and budget maintenance, journal processing, and financial statement presentation.

- MANMAN/FA™ (Fixed Assets) manages capital assets and is able to record and report assets and calculate depreciation for financial accounting and tax purposes.

- MANMAN/SERVICEMAN® is a field management product that provides service contract maintenance, job reporting, and material requisitioning.

- MANMAN/PAYROLL™ provides employee data maintenance, pay calculation, and paycheck preparation.

- MANMAN/HUMAN RESOURCES™ (introduced in fiscal 1985) tracks employee activity, administers benefits, and controls the recruitment, application, and hiring process.

- PLANMAN® /GL™ is a budgeting and planning product that links minicomputer-based MANMAN/GL data to microcomputers for analysis and budget preparation and provides an interface to certain spreadsheet-type products.

- MANMAN/ENGINEER™ (introduced in fiscal 1987) provides an interface between manufacturing and engineering departments. This product has all the bill of material, engineering change control, and part number translation functionality contained in MANMAN/MFG, but in a separate work area data base.

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- MANMAN/TRACKER® (introduced in fiscal 1987), when integrated with MANMAN/MFG, provides complete lot tracking and reporting requirements from purchase order receipt through production to final shipment.

- MANMAN/QUIZ™ is a general purpose report writer for HP 3000 computers licensed from an independent third-party vendor.

- DATATRIEVE™ is a general purpose report writer for DEC VAX computers licensed from DEC.

- ASK has installed over 1,200 MANMAN turnkey systems. Although all manufacturers with $5 million in revenue and 100 employees are prospects for the system, about 50% of the systems installed are in divisions of Fortune 1000 companies. Clients are typically medium to large discrete manufacturing companies in the $50-300 million range.

  - A minimum configuration based on an HP 3000 Series 30 minicomputer, including peripherals and terminals, costs approximately $100,000 plus additional fees for software.

  - ASKMATE™ offers the core of ASK's MANMAN software (MFG, OMAR, AP, GL, and a report writer) bundled together with an HP MICRO 3000 or MICRO 3000XE or a DEC MicroVAX II. ASKMATE ranges in price from $79,000 to $200,000 and is targeted to smaller manufacturers ($5-15 million in annual revenue).

  - HP and DEC are responsible for the installation and maintenance of their hardware and systems software. ASK is responsible for the installation and maintenance of its software products.

- ASK licenses its MANMAN software products for both turnkey system and in-house use. Systems are licensed to a specific computer serial number under a prepaid perpetual license only. Product pricing depends upon whether the customer is purchasing a complete turnkey system or software only.

- As a result of the acquisition of NCA in August 1987, ASK provides the MAXCIM line of integrated modules for manufacturing, financial, sales and marketing, administrative, and information management applications designed to assist management in planning and controlling manufacturing operations.

  - MAXCIM software is compatible with the entire line of DEC VAX computers.

  - MAXCIM is an interactive system made up of a series of manufacturing and financial software modules comprising over 700 individual programs. Each module is integrated through a common data base where all related information is updated simultaneously by a single data entry.

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- The client may choose those modules essential to current requirements. As needs change, the client can select additional modules to expand the system.

- The basic MAXCIM system incorporates data management, manufacturing, and financial systems capabilities. Full software systems are priced from $80,000 for the MicroVAX II to $300,000 for the VAX 8800 series.

- MAXCIM modules and their introduction dates are listed below. Pricing for modules is available upon request.

  - Manufacturing Systems

    - Inventory (1976)
    - Purchasing (1976)
    - Bills of Material (1976)
    - Materials Requirements Planning (1976)
    - Manufacturing Cost (1976)
    - Shop Routing (1979)
    - Master Scheduling/Capacity Planning (1980)
    - R/FLX: Repetitive Manufacturing (1985)
    - MAXScan™ Bar Code (1988)

  - Financial Systems

    - Accounts Receivable (1977)
    - Accounts Payable (1977)
    - General Ledger (1977)
    - Fixed Assets (1980)

  - Management Information Tools

    - Decision Support Systems II (1986)
    - 20/20 Spreadsheet (1984)
    - Fast Inquiry System (1982)

  - Sales/Marketing Systems

    - Sales Analysis (1978)
    - Order Management (1986)
    - Configurator (1986)

- There are currently more than 700 installations of MAXCIM.

- ASK also offers MAXCIM software as an interactive remote computing service.

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- ASK offers clients access to its MANMAN and MAXCIM software through its ASKNET remote computing service.
  - ASKNET serves manufacturing companies whose current size and growth rate do not presently justify purchase of in-house turnkey systems. These customers are prime candidates for later conversion to in-house systems.
  - ASK currently has approximately 131 remote processing customers. Clients are typically companies with under $5 million in revenue.
  - After paying a one-time setup fee and monthly port and communications costs, the customer pays a fixed monthly fee to use MANMAN and MAXCIM products. The fee is based on the number of client terminals, storage, and products used.
- ASK offers the following support services for its MANMAN and MAXCIM product lines:
  - Warranty-Plus, an extended maintenance software subscription service, provides customers with normal software maintenance, product enhancements, and an unlimited telephone hotline support at an annual fee, payable in advance. Substantially all of ASK's customers purchase the software subscription service.
    - During fiscal 1987 ASK established new 24-hour customer response centers in Burlington (MA) and Los Altos (CA) to serve customers in North America.
  - ASK provides education services to its existing and potential clients through seven training centers nationwide. On-site classes are also available.
    - ASK offers one- to five-day classes for fees ranging from $195 to $975 per person.
    - Topic areas include each of ASK's MANMAN and MAXCIM products as well as:
      - Management perspective.
      - Material Requirements Planning.
      - Inventory Management.
      - System Manager.
      - ASKNET.
      - FORTRAN 3000.
      - Implementation Planning.
  - During fiscal 1987 ASK introduced ASK Assistance$^{T.M.}$, a new MANMAN consulting service.

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- ASK also offers clients quarterly and technical newsletters and annual user conferences.

- ASK currently intends to extend/improve its product line in the following areas:
  - Extend multicurrency and international taxation capabilities of the current MANMAN systems to better serve international markets.
  - Create and expand national language versions of MANMAN which began with French and German.
  - Extend the current MANMAN systems to incorporate new manufacturing technologies such as repetitive manufacturing and project manufacturing.
  - Better address the needs of process manufacturers and manufacturers who supply the automotive industry.
  - Improve the connectability of ASK's products to those of other manufacturing related software products.
  - Expand the current systems to incorporate the special needs of multi-site, vertically integrated manufacturing companies.

INDUSTRY MARKETS

- One hundred percent of ASK's fiscal 1987 revenue was derived from the discrete and process manufacturing industries.

GEOGRAPHIC MARKETS

- Approximately 90% of ASK's fiscal 1987 revenue was derived from the U.S. The remaining 10% was derived from international sources. A three-year summary of source of revenue follows ($ millions):

FISCAL YEAR / ITEM	6/87		6/86		6/85	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
U.S.	$88.3	90%	$71.6	94%	$76.8	97%
International	10.0	10	4.4	6	2.4	3
Total	$98.3	100%	$76.0	100%	$79.2	100%

- ASK has 39 offices worldwide. Regional offices are located in Syosset (NY), Oak Brook Terrace (IL), Mountain View (CA), and Houston (TX).

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- ASK training centers are located in Bedford (MA); Cincinnati (OH); Hinsdale (IL); Houston (TX); Syosset (NY); and Los Altos and Orange (CA).

- ASK markets the MANMAN and MAXCIM products in the U.S., Canada, Australia, Singapore, and Europe through its own marketing organization. The MAXCIM products are also represented by distributors in several foreign markets including France, Japan, Australia, and the Far East.

COMPUTER HARDWARE AND SOFTWARE

- ASK's data center in Los Altos (CA) has the following computers installed:

  - 7 HP 3000 Series 64s, MPE4.
  - 12 HP 3000 Series 68s, MPE-V.
  - 1 DEC VAX-11/750, VMS.
  - 3 DEC VAX-11/785s, VMS.
  - 1 DEC VAX 8600, VMS.
  - 1 DEC MicroVAX-II, MicroVM.

- Communication nodes for network access are located as follows:

  - Orange (CA).
    - 1 HP 3000 Series 33, MPE.
  - Hinsdale (IL).
    - 1 HP 3000 Series 33, MPE.
  - Syosset (NY).
    - 1 HP 3000 Series 44, MPE.
  - Bedford (MA).
    - 1 HP 3000 Series 30, MPE.
  - Austin (TX).
    - 1 HP 3000 Series 37, MPE.
  - Orlando (FL).
    - 1 HP 3000 Series 37, MPE.
  - Cincinnati (OH).
    - 1 HP 3000 Series 37, MPE.

- Clients access the Los Altos data center via dial-up phone lines or TYMNET.

- NCA has approximately 15 DEC VAX systems installed in Sunnyvale and Santa Clara (CA) in support of its MAXCIM processing services and for research and development.

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FINANCIAL UPDATE TO PROFILE DATED NOVEMBER 1985

ASK COMPUTER SYSTEMS, INC.
730 Distel Drive
Los Altos, CA 94022
(415) 969-4442

Sandra Kurtzig, Chairman
Ronald Braniff, President and CEO
Public Corporation, OTC
Total Employees: 480
Total Revenue, Fiscal Year End
6/30/86: $76,018,548

ASK COMPUTER SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/86	6/85	6/84	6/83	6/82
Revenue	$76,019	$79,233	$65,076	$39,388	$24,871
. Percent increase (decrease) from previous year	(4%)	22%	65%	58%	86%
Income before taxes	$ 9,816	$14,709	$10,922	$ 6,659	$ 4,844
. Percent increase (decrease) from previous year	(33%)	35%	64%	37%	70%
Net income	$ 5,889	$ 7,949	$ 6,142	$ 3,905	$ 2,695
. Percent increase (decrease) from previous year	(26%)	29%	57%	45%	70%
Earnings per share	$ 0.46	$ 0.65	$ 0.53	$ 0.35	$ 0.27
. Percent increase (decrease) from previous year	(29%)	23%	51%	30%	42%

- ASK management attributes declines in revenue and net income primarily to softness in the market for computer-based products and services as U.S. manufacturing firms continued to experience a decline in business and demonstrate a reduced level of capital spending.

  - Revenues for the fourth quarter and second half of fiscal 1986 were at record levels for ASK, although revenue and earnings for the year were lower than fiscal 1985.

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SOURCE OF REVENUE

- INPUT estimates ASK's fiscal 1986 revenue was derived as follows:

	Revenue ($ Millions)	Percent of Total
Turnkey systems and software products	$57.3	75%
Processing services	9.1	12
Software support and customer education	9.6	13
	$76.0	100%

- One hundred percent of ASK's fiscal 1986 revenue was derived from the discrete and process manufacturing industries. ASK currently has over 1,000 customers worldwide.

- Approximately 87% of ASK's fiscal 1986 revenue was derived from the U.S., with the remaining 13% from Europe, Canada, and Australia.

NEW PRODUCTS AND SERVICES

- MANMAN software will be available for HP's newly introduced "Spectrum Program" series of computers, including the HP 3000 Series 930 and 950. MANMAN also runs on the HP 3000 Series 70.

- During February 1986, DEC appointed ASK as its first Systems Cooperative Marketing Partner (SCMP) for manufacturing information systems. This relationship will provide for cooperative sales and marketing programs. ASK's MANMAN system will be installed for demonstration in all DEC Application Centers for Technology throughout the U.S.

- As part of its plan to expand international markets, during fiscal 1986 ASK established ASK Computer Systems S.A. (Paris), the company's first European subsidiary. The company released a French version of MANMAN and began work on a German version.

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COMPANY PROFILE

ASK COMPUTER SYSTEMS, INC.
730 Distel Drive
Los Altos, CA 94022
(415) 969-4442

Sandra Kurtzig, Chairman
Ronald Braniff, President and CEO
Public Corporation, OTC
Total Employees: 466
Total Revenue, Fiscal Year End
6/30/85: $79,233,122

THE COMPANY

- ASK Computer Systems, incorporated in 1974, develops, markets, and supports the MANMAN® Information System, an integrated management information system for the manufacturing industry. MANMAN is available as a turnkey system, through the company's ASKNET® remote processing service, or as a software product.

- Fiscal 1985 revenue reached $79.2 million, a 22% increase over fiscal 1984 revenue of $65.1 million. Net income rose 29% from $6.1 million in 1984 to $7.9 million in 1985. A five-year financial summary follows:

ASK COMPUTER SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/85	6/84(a)	6/83	6/82	6/81
Revenue	$ 79,233	$ 65,076	$ 39,388	$ 24,871	$ 13,361
. Percent increase from previous year	22%	65%	58%	86%	60%
Income before taxes	$ 14,709	$ 10,922	$ 6,659	$ 4,844	$ 2,846
. Percent increase from previous year	35%	64%	37%	70%	43%
Net income	$ 7,949	$ 6,142	$ 3,905	$ 2,695	$ 1,581
. Percent increase from previous year	29%	57%	45%	70%	59%
Earnings per share	$ 0.65	$ 0.53	$ 0.35	$ 0.27	$ 0.19
. Percent increase from previous year	23%	51%	30%	42%	46%

(a) In June 1984 ASK discontinued the operations of its ASK Micro Inc. subsidiary. ASK has subsequently sold the rights to the microcomputer software products of

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the subsidiary, disposed of equipment, and closed the subsidiary's facility. ASK's fiscal 1984 financials include a $1.2 million write-off associated with the discontinued products and plant closure.

- ASK management states that the decline in the rate of revenue growth in fiscal 1985 (occurring primarily during the second half of the fiscal year) was due to an unanticipated slowdown in the manufacturing industry. This resulted in a general reduction in capital spending, deferred purchase decisions, extended selling cycles, and a weaker overall demand for information systems.

- Product development expenditures reached $6.6 million (8% of revenue) in fiscal 1985 as compared to $5.2 million (8% of revenue) in fiscal 1984 and $3.4 million (9% of revenue) in fiscal 1983.

  - Of ASK's 161 research and development personnel, approximately 63% work on software enhancements, 27% on new products, and 10% on adopting products available on HP computers to DEC hardware lines and vice versa.

- Revenue for the first quarter of fiscal 1986 ending September 30, 1985 was $12.8 million, a 29% decrease from $18 million for the first quarter of fiscal 1985. Net income was $694,000, compared to $1.7 million for the same period a year ago. ASK management attributes these declines to the continued slowdown in the manufacturing industry and delayed buying decisions.

- As of September 1, 1985, ASK had 466 employees, segmented as follows:

Marketing/sales/education/ customer support	217
Product development	161
Computer operations	23
Finance and administration	65
	466

- ASK competes with IBM and Hewlett-Packard in the software product and turnkey systems markets. In the processing services area, primary competitors are Xerox Computer Services and Comserv.

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KEY PRODUCTS AND SERVICES

- INPUT estimates ASK's fiscal 1985 revenue was derived as follows:

	Revenue ($ millions)	Percent of Total
Turnkey systems and software products	$60.7	77%
Processing services	10.5	13
Software support and customer education	8.0	10
	$79.2	100%

- ASK's primary offering is the MANMAN® Information System, an on-line, interactive, menu-driven manufacturing and financial control system for manufacturers. MANMAN is available to clients as a turnkey system, software only, or as a processing service.

  - There are currently over 800 manufacturing companies worldwide using MANMAN systems.

  - MANMAN software operates on all models of the HP 3000 Series minicomputer, and most modules are also available for DEC VAX computers.

    - In February 1985 ASK announced its plans to develop MANMAN software for the IBM 4300 line of computers. In May 1985 ASK signed a letter of intent to become a value-added reseller for the IBM 4361.

    - In November 1985 ASK announced MANMAN for the DEC MicroVAX II.

- MANMAN's modules are integrated through a common data base using HP's IMAGE and DEC's DBMS-32 data base management systems. While the products can be used independently, typical customers acquire three or four products as an integrated system.

  - MANMAN/MFG (Manufacturing Management) consists of eight application modules which assist management in performing the following functions:

    - Inventory control.
    - Bill of materials/engineering design.
    - Work-in-progress/shop floor control.
    - Purchasing.

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- Material requirements planning.
- Capacity requirements planning.
- Master production scheduling.
- Cost accounting.

- MANMAN/OMAR T.M. (Order Management and Accounts Receivable) provides the capability for performing sales order entry and generating order acknowledgements, backlog reports, shipping documents, invoices, accounts receivable, cash receipts, and sales analysis.

- MANMAN/QUALITY (introduced in fiscal 1985) provides the capability to track and analyze product and process quality with Inspection Data Definition, Data Collection, Statistical Analysis, and Reporting modules.

- MANMAN/REPETITIVE (introduced in fiscal 1985) provides for the planning and controlling of high volume, low inventory, and short lead time manufacturing with three modules: Build Rate Scheduling; Work Area Inventory Replenishment; and WIP Inventory Consumption and Costing.

- MANMAN/DecisionMaker T.M. (introduced in fiscal 1985) summarizes key business information on-line and provides exception reporting capabilities.

- MANMAN/BARSCAN T.M. (introduced in fiscal 1985) facilitates fast and accurate data entry, prints bar coded shop floor documents, and creates user-defined bar code menus.

- MANMAN/PROJECTS (introduced in fiscal 1985) provides the capability to monitor progress and track time, materials, and costs expended on projects through Work Breakdown Structure, Project Planning, Cost Collection, and Project Reporting modules.

- PLANMAN® /MFG (introduced in fiscal 1985) is a forecasting and budgeting product that links minicomputer-based manufacturing data to microcomputers for sales analysis and forecasting and provides an interface to certain spreadsheet-type products.

- MANMAN/CURRENCIES provides capabilities for tracking foreign trade business activity and reports currency exchange variances due to rate fluctuations.

- MANMAN/AP (Accounts Payable) provides for voucher processing, cash disbursements (including generation of checks), controls, and analysis.

- MANMAN/GL (General Ledger) provides for general ledger and budget maintenance, journal processing, and financial statement presentation.

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- MANMAN/FA (Fixed Assets) provides the capability to manage capital assets and is able to record and report assets and calculate depreciation for financial accounting and tax purposes.

- MANMAN/SERVICEMAN® is a field service management product that provides capabilities for service contract maintenance, job reporting, and material requisitioning.

- MANMAN/PAYROLL provides the capability for employee data maintenance, pay calculation, and paycheck preparation.

- MANMAN/HUMAN RESOURCES (introduced in fiscal 1985) provides the ability to track employee activity, administer benefits, and control the recruitment, application, and hiring process.

- PLANMAN® /GL is a budgeting and planning product that links minicomputer-based MANMAN/GL data to microcomputers for analysis and budget preparation and provides an interface to certain spreadsheet-type products.

- MANMAN/GRAFMAN is an integrated business graphics product that provides a wide range of pre-formatted graphs and charts for summarizing and displaying information maintained by the MANMAN Information System.

- MANMAN/QUIZ is a general purpose report writer licensed from an independent third-party vendor.

• ASK has installed over 600 MANMAN turnkey systems. Although all manufacturers with $5 million in revenue and 100 employees are prospects for the system, about 50% of the systems installed are in divisions of Fortune 1000 companies. Clients are typically medium to large discrete manufacturing companies in the $50-300 million range.

- A minimum configuration based on an HP 3000 Series 30 minicomputer, including peripherals and terminals, costs approximately $100,000 plus additional fees for software.

- A maximum configuration based on a DEC VAX 8600 minicomputer, including peripherals and terminals, costs over $750,000 plus additional fees for software.

- In September 1984 ASK introduced ASKMATE, a complete MANMAN system running on an HP 3000 Series 37 minicomputer. ASKMATE is priced below $125,000 and is targeted to smaller manufacturing companies ($5 to $10 million in annual revenue).

- HP and DEC are responsible for the installation and maintenance of their hardware and systems software. ASK is responsible for the installation and maintenance of its software products.

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- ASK licenses its MANMAN software products for both turnkey system and in-house use. Systems are licensed to a specific computer serial number under a prepaid perpetual license only. Product pricing depends upon whether the customer is purchasing a complete turnkey system or software only.

  - ASK offers a comprehensive software support service for all MANMAN products including software and documentation updates and phone-in consulting. Monthly software support fees are prepaid annually.

- ASK offers clients access to its MANMAN software through its ASKNET remote computing service.

  - ASKNET serves manufacturing companies whose current size and growth rate do not presently justify purchase of in-house turnkey systems. These customers are prime candidates for later conversion to in-house systems. Over 40 ASKNET customers converted to MANMAN turnkey systems during fiscal 1985.

  - ASK currently has over 150 remote processing customers. Clients are typically companies with $2 to $12 million in revenue.

  - After paying a one-time set-up fee and monthly port and communications costs, the customer pays a fixed monthly fee to use MANMAN products. The fee is based on the number of client terminals, storage, and products used.

- ASK provides education services to its existing and potential clients through seven training centers nationwide. On-site classes are also available.

  - ASK offers one- to five-day classes for fees ranging from $175 to $875 per person.

  - Topic areas include each of ASK's MANMAN products as well as:

    - Management Perspective.
    - Material Requirements Planning.
    - Inventory Management.
    - System Manager.
    - ASKNET.
    - FORTRAN 3000.
    - Implementation Planning.

- ASK management intends to extend its level of integration to include industrial automation devices and thereby allow more areas of a manufacturing company to benefit from accurate, up-to-date information. The company's objective is to expand its product's capabilities to permit integration with:

  - Automatic test equipment.
  - Material handling equipment.
  - Computer-aided design and engineering systems.

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- Automated data capture equipment.
- Automated storage and retrieval systems.
- Manufacturing robots.
- Computer numerically-controlled machines.

INDUSTRY MARKETS

- One hundred percent of ASK's fiscal 1985 revenue was derived from the discrete and process manufacturing industries.

GEOGRAPHIC MARKETS

- Approximately 90% of ASK's fiscal 1985 revenue was derived from the U.S., with the remaining 10% from Europe, Canada, and Australia.

- Regional offices are located as follows:

  - Eastern: Syosset (NY).
  - Midwest: Oakwood Terrace (IL).
  - West: Los Altos (CA).

- Additional sales offices are located in Orange, La Jolla, Torrance, and Woodland Hills (CA); Beaverton (OR); Bellevue (WA); Englewood (CO); Phoenix; Austin, Houston, and Richardson (TX); Cleveland, Cincinnati, and Columbus (OH); Columbia (MO); Troy (MI); Bloomington (MN); Pittsburgh; Westport (CT); Hockessin (DE); Bedford (MA); Syracuse (NY); Lutherville (MD); Parsippany (NJ); Tulsa; Overland Park (KS); Raleigh; Dunwoody (GA); and Fort Lauderdale.

- ASK training centers are located in Bedford (MA), Cincinnati, Hinsdale (IL), Houston, Syosset (NY), and Los Altos, Orange, and Torrance (CA).

- ASK opened direct sales offices in Toronto, Montreal, Sydney, and Paris during fiscal 1985. Scicon Ltd., a division of British Petroleum Co. Ltd., is ASK's exclusive distributor in the United Kingdom.

COMPUTER HARDWARE AND SOFTWARE

- ASK's data center in Los Altos (CA) has the following computers installed:

  - 9 HP 3000 Series 68s, MPE.
  - 2 DEC VAX-11/785s, operating under VMS.

- Communication nodes for network access are located as follows:

  - Orange (CA).

    . 1 HP 3000 Series 33, MPE.

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- Hinsdale (IL).
    - 1 HP 3000 Series 33, MPE.
- Syosset (NY).
    - 1 HP 3000 Series 44, MPE.
- Bedford (MA).
    - 1 HP 3000 Series 30, MPE.
- Austin (TX).
    - 1 HP 3000 Series 37, MPE.
- Orlando (FL).
    - 1 HP 3000 Series 37, MPE.
- Cincinnati (OH).
    - 1 HP 3000 Series 37, MPE.

- Clients access the Los Altos data center via dial-up phone lines or TYMNET.

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FINANCIAL UPDATE TO HIGHLIGHT DATED SEPTEMBER 1983

ASK COMPUTER SYSTEMS, INC.
730 Distel Drive
Los Altos, CA 94022
(415) 969-4442

Sandra Kurtzig, Chairman and CEO
Ronald Braniff, President
Public Corporation, OTC
Total Employees: 350
Total Revenue, Fiscal Year End
6/30/84: $65,076,361

ASK COMPUTER SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/84	6/83	6/82	6/81	6/80
Revenue	$ 65,076	$ 39,388	$ 24,871	$ 13,361	$ 8,326
. Percent increase from previous year	65%	58%	86%	60%	200%
Income before taxes	$ 10,922	$ 6,659	$ 4,844	$ 2,846	$ 1,988
. Percent increase from previous year	64%	37%	70%	43%	348%
Net income	$ 6,142	$ 3,905	$ 2,695	$ 1,581	$ 995
. Percent increase from previous year	57%	45%	70%	59%	320%
Earnings per share	$ 0.53	$ 0.35	$ 0.27	$ 0.19	$ 0.13
. Percent increase from previous year	51%	30%	42%	46%	333%

- In June 1984 ASK discontinued the operations of its ASK Micro Inc. subsidiary. ASK has subsequently sold the rights to the microcomputer software products of the subsidiary, disposed of equipment, and closed the subsidiary's facility. ASK's fiscal 1984 financials include a $1.2 million write-off associated with the discontinued products and plant closure.

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SOURCE OF REVENUE

- INPUT estimates ASK's fiscal 1984 revenue was derived as follows:

	Revenue ($ millions)	Percent of Total
Turnkey systems (a)	$45.6	70%
Processing services	9.8	15
Software products	3.2	5
Software support and customer education	6.5	10
	$65.1	100%

(a) Includes approximately $6.5 million (10% of revenue) from add-on software and hardware sales.

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COMPANY HIGHLIGHT

ASK COMPUTER SYSTEMS, INC.
730 Distel Drive
Los Altos, CA 94022
(415) 969-4442

Sandra Kurtzig, President and CEO
Public Corporation, OTC
Total Employees: 268
Total Revenue, Fiscal Year End
6/30/83: $39,387,661

THE COMPANY

- ASK Computer Systems, incorporated in 1974, provides manufacturing, financial, and graphics software products, turnkey systems, and processing services primarily to the manufacturing industry. In 1983 the company began offering microcomputer-based accounting software packages.

- On June 10, 1983, ASK acquired all of the outstanding shares of common stock of Software Dimensions Inc. of Folsom (CA) in exchange for 225,000 shares of ASK's common stock.

  - Software Dimensions developed the Accounting Plus T.M. series of accounting software packages for IBM, Apple, and CP/M-based microcomputers.

  - Software Dimensions had 43 employees at the time of the acquisition and revenue of $3.1 million for fiscal year end June 30, 1983. Revenue for fiscal 1982 was $2.1 million.

  - As a result of the acquisition, Software Dimensions was renamed ASK Micro Inc. It now operates as a wholly owned subsidiary of ASK.

- Fiscal 1983 revenue reached $39.4 million, a 58% increase over 1982 revenue of $24.9 million. Net income rose 45% from $2.7 million in 1982 to $3.9 million in 1983. In the five-year summary that follows, fiscal 1983, 1982, and 1981 financials have been adjusted to include the operations of ASK Micro Inc. (formerly Software Dimensions Inc.).

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ASK COMPUTER SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/83	6/82	6/81	6/80	6/79
Revenue	$39,388	$24,871	$13,361	$8,326	$2,775
. Percent increase from previous year	58%	86%	60%	200%	492%
Income before taxes	$ 6,659	$ 4,844	$ 2,846	$1,988	$ 444
. Percent increase from previous year	37%	70%	43%	348%	8,980%
Net income	$ 3,905	$ 2,695	$ 1,581	$ 995	$ 237
. Percent increase from previous year	45%	70%	59%	320%	4,840%
Earnings per share (a)	$ 0.35	$ 0.27	$ 0.19	$ 0.13	$ 0.03
. Percent increase from previous year	30%	42%	46%	333%	N/A

(a) Restated to reflect a two-for-one stock split in July 1983.

- ASK management attributes revenue growth to increases in the unit volume of all products and services and to the sale of larger average-size systems. The company's on-line remote processing service, ASKNET T.M., grew at a faster rate than the company as a whole, accounting for 6% of revenue in fiscal 1982 and 12% in 1983. Increases in net income have resulted primarily from a higher volume of sales.

- Product development expenditures reached $3.4 million (9% of revenue) in fiscal 1983 as compared to $2.2 million (9% of revenue) in 1982 and $1.3 million (10% of revenue) in 1981.

- In December 1982 ASK completed a second public offering of 1,250,000 shares of common stock. Net proceeds of approximately $10 million are being used for working capital and to finance facilities, capital equipment commitments, and software development.

- During 1982 ASK acquired licenses to three software products for an aggregate cost of approximately $1 million.

  - In June 1982 ASK acquired QUIZ, a general-purpose report generator developed by Quasar Systems Ltd. of Canada.

  - In October 1982 ASK acquired a payroll product developed by Argonaut Information Systems of Oakland (CA).

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- In November 1982 the company entered into an agreement with DEC for a multicopy license for DEC's DBMS-32 data base management system.

- ASK competes with IBM and Hewlett-Packard in the software product and turnkey systems markets. In the processing services area, primary competitors are Xerox Computer Services and Comserv.

- As of June 30, 1983, ASK had 268 employees, segmented as follows:

Marketing/sales	63
Customer support	61
Product development	78
Computer operations	17
Finance and administration	49
	268

KEY PRODUCTS AND SERVICES

- INPUT estimates ASK's fiscal 1983 revenue was derived as follows:

	Revenue ($ millions)	Percent of Total
Turnkey systems	$28.0	71%
Software products - MANMAN and systems software ($3.6) - Microcomputer software ($3.1)	6.7	17
Processing services	4.7	12
Total	$39.4	100%

  - One hundred percent of turnkey revenue was derived from sales of MANMAN integrated systems.

  - Software revenue was derived primarily from MANMAN and microcomputer accounting package sales. A small percentage of revenue was from systems software.

  - Virtually all processing revenue was derived from remote processing of MANMAN applications.

- ASK's primary offering is the MANMAN® Information System, an on-line, interactive, menu-driven manufacturing and financial control system for manufacturers. MANMAN is available to clients as a turnkey system, software only, or as a processing service.

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- There are currently over 500 manufacturing companies worldwide using MANMAN systems.

- MANMAN software operates on all models of the HP 3000 Series minicomputer. During fiscal 1983 ASK announced the availability of its MANMAN/MFG software for use with the DEC VAX series of minicomputers. The company plans to develop VAX versions of its other MANMAN products during fiscal 1984.

- MANMAN's 12 products are integrated through a common data base using HP's IMAGE and DEC's DBMS-32 data base management systems. While the products can be used independently, typical customers acquire three or four products as an integrated system. Modules available include:

  - MANMAN/MFG (Manufacturing Management).

    - Inventory control.
    - Bill of materials/engineering design.
    - Work-in-progress/shop floor control.
    - Purchasing.
    - Material requirements planning.
    - Resource requirements planning.
    - Capacity requirements planning.
    - Cost accounting/labor distribution.
    - Master production scheduling.

  - MANMAN/OMAR (Order Management and Accounts Receivable).

    - Accounts receivable/cash receipts.
    - Sales order entry.
    - Invoicing/shipping.
    - Sales analysis.

  - MANMAN/OMAR PLUS.

    - OMAR plus inventory control, purchasing, cost accounting, and master production scheduling.

  - MANMAN/AP (Accounts Payable).

    - Accounts payable.
    - Voucher processing.
    - Cash disbursements.

  - MANMAN/GL (General Ledger).

    - General ledger.
    - Budget maintenance.
    - Financial statement preparations.
    - Journal processing.

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- MANMAN/FA (Fixed Assets).

  . Fixed assets tracking.
  . Expense reporting.
  . Depreciation processing.

- MANMAN/PLANMAN[T.M.] (Financial Modeling).

  . Interface for general ledger account information to be transferred to an HP 120 or 125 personal computer for use with VisiCalc® spreadsheet software to create or revise budgets.

- MANMAN/PAYROLL.

  . Employee data.
  . Payroll.
  . Deductions and taxes.

- MANMAN/SERVICEMAN[T.M.] (Field Service).

  . Service contract maintenance.
  . Job reporting.
  . Material requisitioning.

- MANMAN/SERVICEMAN PLUS.

  . SERVICEMAN plus inventory control, purchasing, cost accounting, and master production scheduling.

- MANMAN/GRAFMAN[T.M.] (Integrated Business Graphics).

  . Preformatted graphs to display MANMAN information.

- MANMAN/QUIZ® (Report Writer).

• ASK has installed over 400 MANMAN turnkey systems. Although all manufacturers with $5 million in revenue and 100 employees are prospects for the system, about 50% of the systems installed are in divisions of Fortune 1000 companies. Clients are typically medium to large discrete manufacturing companies in the $50-100 million range.

- A minimum configuration based on an HP 3000 Series 30 minicomputer, including peripherals and terminals, costs approximately $100,000 plus additional fees for software.

- A maximum configuration based on a DEC VAX-11/780 minicomputer, including peripherals and terminals, costs over $750,000 plus additional fees for software.

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- HP and DEC are responsible for the installation and maintenance of their hardware and systems software. ASK is responsible for the installation and maintenance of its software products.

- ASK has licensed over 1,500 MANMAN software products for both turnkey system and in-house use. Systems are licensed to a specific computer serial number under a prepaid perpetual license only. Product pricing depends upon whether the customer is purchasing a complete turnkey system or software only.

  - ASK offers a comprehensive software support service for all MANMAN products including software and documentation updates and phone-in consulting. Monthly software support fees are prepaid annually.

  - A listing of MANMAN software license and support fees follows:

	Turnkey System License Fee	Software-Only License Fee	Monthly Software Support Fee
MANMAN/MFG	$60,000	$80,000	$450
MANMAN/OMAR	30,000	40,000	190
MANMAN/OMAR PLUS	50,000	67,000	300
MANMAN/AP	15,000	20,000	95
MANMAN/GL	15,000	20,000	95
MANMAN/FA	10,000	13,000	60
MANMAN/PAYROLL	18,000	24,000	115
MANMAN/PLANMAN	1,000	1,500	10
MANMAN/SERVICEMAN	20,000	27,000	150
MANMAN/SERVICEMAN PLUS	40,000	55,000	300
MANMAN/GRAFMAN	2,000	3,000	50
MANMAN/QUIZ	9,000	9,000	50

- ASK also offers several systems software packages developed by Quasar Systems Ltd. of Canada. They are designed to run with MANMAN on HP 3000 minicomputers operating under MPE.

  - QUICK is an on-line data entry, inquiry, and file maintenance system. It is priced at $8,500.

  - QTP is a batch transaction processor. It is priced at $4,000.

  - POWERPLAN is a financial report consolidator. It is priced at $15,000.

  - POWERHOUSE combines the functions of QUICK, QTP, and POWERPLAN with DICTIONARY PLUS, a data dictionary. It is priced at $19,500.

- ASK offers clients access to its MANMAN software through its ASKNET remote computing service.

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- ASKNET serves manufacturing companies whose current size and growth rate do not presently justify purchase of in-house turnkey systems. These customers are prime candidates for later converison to in-house systems.

- ASK currently has over 100 remote processing customers. Clients are typically companies with $2 to $12 million in revenue.

- After paying a one-time set-up fee and monthly port and communications costs, the customer pays a fixed monthly fee to use MANMAN products. The fee is based on the number of client terminals, storage, and products used.

- ASK provides education services to its existing and potential clients through seven training centers nationwide. On-site classes are also available.

  - ASK offers one- to five-day classes for fees ranging from $175 to $875 per person.

  - Topic areas include each of ASK's MANMAN products as well as:

    . Management Perspective.
    . Material Requirements Planning.
    . Inventory Management (for OMAR PLUS and SERVICEMAN PLUS customers only).
    . System Manager.
    . ASKNET.
    . FORTRAN 3000.
    . Implementation Planning.

- In June 1979 ASK granted Sperry Univac a nonexclusive license to market MANMAN on Univac minicomputers under the MANMAN trademark. During fiscal 1981, Univac paid ASK $357,000 in royalties. No royalties were paid in fiscal 1982 and none are expected in the future. The license agreement is now expired.

- The company's ASK Micro Inc. subsidiary provides accounting software systems for all major microcomputers, including IBM, Apple, and CP/M-based equipment.

  - ASK Micro Inc. contributed $3.1 million to fiscal 1983 revenue, $2.1 million to 1982 revenue, and $360,534 to 1981 revenue.

  - The subsidiary's major product line, known as Accounting Plus, includes software modules for general ledger, accounts payable, accounts receivable, payroll, sales order processing, purchasing, and inventory control for small business management. Modules for point-of-sale accounting for retailers as well as general payroll, fixed assets, and mailing list management are available.

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- ASK Micro also markets CPA/Partner T.M., an accounting/billing system, and PRO/Partner T.M., a professional billing system, for Apple II systems.

- Over 20,000 packages have been installed. Pricing is approximately $500 per module.

- Products are currently marketed through national retail chains and franchises; major national, regional, and international distributors; and OEMs.

INDUSTRY MARKETS

- ASK's fiscal 1983 revenue was derived approximately as follows:

Discrete manufacturing	97%
Process manufacturing	3
	100%

GEOGRAPHIC MARKETS

- Approximately 99% of ASK's fiscal 1983 revenue was derived from the U.S., with the remaining 1% from Europe and Canada.

- Regional offices are located as follows:

  - Eastern: Syosset (NY).
  - Midwest: Hinsdale (IL).
  - Northwest: Los Altos (CA).
  - Southwest: Orange (CA).

- Additional sales offices are located in La Jolla, Torrance, and Woodland Hills (CA), Englewood (CO), Westport (CT), Hockessin (DE), Fort Lauderdale, Dunwoody (GA), Columbia (MO), Bedford (MA), Bloomington (MN), Cincinnati, Beaverton (OR), and Houston and Richardson (TX).

- ASK training centers are located in Bedford (MA), Hinsdale (IL), Houston, Syosset (NY), and Los Altos, Orange, and Torrance (CA).

- International distributors for ASK software include Scicon, a division of British Petroleum Co. Ltd. and the exclusive distributor in England, and CISI, which distributes ASK products in France on an exclusive basis and in Belgium, Italy, Spain, and Switzerland on a nonexclusive basis.

COMPUTER HARDWARE AND SOFTWARE

- ASK has computers installed at the following locations:

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- Los Altos (CA).
  - 9 HP 3000 Series 64s, MPE.
  - 1 DEC VAX-11/780.
- Orange (CA).
  - 1 HP 3000 Series 33, MPE.
- Hinsdale (IL).
  - 1 HP 3000 Series 33, MPE.
- Syosset (NY).
  - 1 HP 3000 Series 44, MPE.
- Bedford (MA).
  - 1 HP 3000 Series 30, MPE.

- Clients access the Los Altos data center via dial-up phone lines or TYMNET.

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COMPANY PROFILE

ASK COMPUTER SYSTEMS, INC.
730 Distel Drive
Los Altos, CA 94002
(415) 969-4443

Sandra Kurtzig, President
Public Corporation, OTC
Total Employees: 98
Total Revenue, Fiscal Year End
6/30/81: $13,000,053

THE COMPANY

- ASK Computer Systems, incorporated in 1974, provides manufacturing, financial, and graphics software products, turnkey systems, and processing services to the manufacturing industry.

- In October 1981, ASK successfully completed a public offering of 885,000 shares of common stock. The net proceeds of $9.1 million will be used to acquire computer equipment to expand processing services and increase working capital required for continued growth.

- ASK's FY 1981 revenue increased 56% over 1980 to $13.0 million. Pretax income increased 36% to $2.7 million. Net income rose 50% to $1.5 million. Per share earnings rose 41% to $0.38. A five-year summary follows:

ASK COMPUTER SYSTEMS
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

FISCAL YEAR / ITEM	6/81	6/80	6/79	6/78	6/77
Revenue	$13,000	$ 8,326	$ 2,775	$ 469	$ 301
. Percent increase from previous year	56%	200%	492%	56%	
Income (loss) before taxes	$ 2,707	$ 1,988	$ 444	$ (5)	$ 38
. Percent increase (decrease) from previous year	36%	348%	8,980%	(113%)	
Net income (loss)	$ 1,491	$ 995	$ 237	$ (5)	$ 28
. Percent increase (decrease) from previous year	50%	320%	4,840%	(118%)	
Per share earnings	$ 0.38	$ 0.27	$ 0.06	$ 0.00	$ 0.01
. Percent increase from previous year	41%	350%	-	-	-

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- Revenue growth has been due primarily to increased numbers of systems sold through the growth and geographic expansion of the sales organization. The U.S. sales force grew from 13 people in four offices in June 1980 to 48 people in 13 offices in July 1981.

- Product development expenditures increased 157% in FY 1981 over 1980 to $1.1 million. This represented 8.7% of FY 1981 revenue. FY 1980 expenditures were $0.4 million, a 31% increase over 1979.

- ASK competes with large manufacturers such as IBM, Hewlett-Packard, and Sperry-Univac in software products and turnkey systems. In the computer services area, primary competitors are Xerox Computer Services and Comserv.

- As of July 31, 1981, ASK employees were segmented as follows:

Marketing, sales, technical support	48
Product development	37
Finance and administration	13
	98

KEY PRODUCTS AND SERVICES

- ASK markets the MANMAN® Information System, an online, interactive manufacturing and financial control system for manufacturers. MANMAN is available as a software product, turnkey system, or processing service. INPUT estimates ASK FY 1981 revenue was derived as follows:

	Revenue ($ millions)	Percent of Total
Turnkey systems	$11.2	86%
Software products	1.3	10
Processing services	0.5	4
	$13.0	100%

- MANMAN's four component systems share a common data base of information through Hewlett-Packard's IMAGE data base management system. Individual modules, although available for use separately, are integrated. There are approximately 200 companies worldwide using 400 MANMAN products. MANMAN software operates on all models of the HP 3000 Series. In 1982, MANMAN will be available on DEC VAX 32-bit minicomputers.

  - MANMAN/MM Manufacturing Management System.

    - Bill of material/engineering design.
    - Capacity requirements planning.
    - Cost accounting.
    - Inventory control.

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- . Master production scheduling.
- . Material requirements planning.
- . Purchasing.
- . Work-in-process/shop floor control.

- MANMAN/OMAR Order Management and Accounts Receivable System.

  - . Accounts receivable.
  - . Cash receipts.
  - . Invoicing.
  - . Sales analysis.
  - . Sales order entry.
  - . Master scheduling/resource requirements planning.

- MANMAN/AP Accounts Payable System.

  - . Accounts payable.
  - . Cash disbursements.
  - . Voucher processing.

- MANMAN/GL General Ledger System.

  - . Budgeting.
  - . Financial statements.
  - . General ledger.

- ASK also makes available QUIZ, a general report writer, and PAYPLUS/3000, a payroll system. Quiz is licensed from Quasar Systems Ltd. of Canada, and PAYPLUS/3000 from Collier-Jackson and Associates of Tampa (FL).

• In June 1981, ASK introduced GRAFMAN[T.M.], an integrated business graphics system providing pre-formatted graphs to display MANMAN information.

- GRAFMAN operates with the HP DSG/3000 Decision Support Graphics System. Approximately 20 pre-formatted graphs, which can create line, bar, and pie charts, are currently available. Custom graphs can be created by using DSG/3000.

- Some of the standard, pre-formatted graphs provided by GRAFMAN are:

  - . Purchase Order Dollar Commitment.
  - . Vendor Performance.
  - . Work-In-Process Summary.
  - . Work Center Capacity.
  - . Resource Capacity.
  - . Projected Inventory Value.

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- ASK has installed over 175 MANMAN turnkey systems. Although manufacturers with $5 million in revenue and 100 employees are prospects for the system, about 50% of the systems installed are in divisions of Fortune 1000 companies. Clients are typically medium to large discrete manufacturing companies in the $50-100 million range.

  - A minimum configuration based on an HP3000 Series 30 minicomputer, including peripherals and terminals, costs approximately $100,000 plus software.

  - A maximum configuration based on an HP3000 Series 44 minicomputer, including peripherals and terminals, costs over $300,000 plus software.

- ASK has licensed over 400 MANMAN software products. Systems are licensed to a specific computer serial number as a pre-paid perpetual license only. Products are priced as follows:

MANMAN/MM Manufacturing Management System	$50,000
MANMAN/OMAR Order Management and Accounts Receivable System	20,000
MANMAN/AP Accounts Payable System	10,000
MANMAN/GL General Ledger System	10,000
GRAFMAN Business Graphics System	8,500
QUIZ Report Writing System	6,500
PAYPLUS/3000 Payroll System	10,000

- ASK offers a comprehensive software support service for all MANMAN products including software and documentation updates, and phone-in consulting. A customer education service was added in January 1981. Monthly software support fees, prepaid annually, are:

MANMAN/MM Manufacturing Management System	$375
MANMAN/OMAR Order Management/Accounts Receivable System	150
MANMAN/AP Accounts Payable System	75
GRAFMAN Business Graphics System	75
MANMAN/GL General Ledger System	75
QUIZ Report Writing System	50

- In September 1980, ASK began offering MANMAN as a remote computing service. All MANMAN software modules are supported on the network.

  - The network service is used as a migration path for converting users to turnkey system purchasers. Since the service was introduced, five network users have purchased turnkey systems.

  - ASK currently has 31 network users. Clients are typically companies in the $2 to $12 million range.

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- Revenue per network user generally averages less than $5,000 per month. Conversion to a turnkey system becomes cost effective when expenditures reach $7,000 a month.

- After paying a one-time set-up fee and monthly port and communications costs, the customer pays a fixed monthly fee for MANMAN products as follows:

MANMAN/MM (up to 10MB)	$500
MANMAN/OMAR (up to 4 MB)	200
MANMAN/AP (up to 2 MB)	100
MANMAN/GL (up to 2 MB)	100
Additional data storage per MB	60

- Processing clients can accumulate usage credits toward a MANMAN license packaged with a Hewlett-Packard minicomputer from ASK. The maximum credit is 10% of the software purchase price.

- Possible new product enhancements for MANMAN are applications for:

  - Financial modeling.
  - Distribution.
  - Service management.
  - Fixed assets.
  - Data collection.
  - Quality control.

- Sperry Univac has a non-exclusive license to market MANMAN on Univac minicomputers under the MANMAN trademark. Under the terms of the agreement, Univac can modify the software and eventually sell it under its own name. Use of the trademark will expire on or before June 1982. During FY 1981, Univac paid ASK $357,500 in royalties.

- Some of the 200 users of the MANMAN system include AM International, American Telecom, Conrac Corporation, FMC Airline Equipment Division, Hughes Aircraft, NBI, Pulse Engineering, Rockwell International, Schlumberger, and Thermon Manufacturing.

INDUSTRY MARKETS

- The majority of ASK's revenues are derived from discrete manufacturing, with a small portion coming from process manufacturing and wholesale distribution.

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GEOGRAPHIC MARKETS

- Approximately 95% of ASK's FY 1981 revenue was derived domestically, with 5% from Europe and Canada. Distribution by U.S. regional offices was as follows:

-	Syosset (NY) Offices: Westport (CT), Ft. Lauderdale (FL), Bedford (MA), King of Prussia (PA)	33%
-	Orange (CA) Offices: Richardson and Houston (TX), Los Angeles and San Diego (CA)	32%
-	Hinsdale (IL) Offices: Cleveland (OH), Indianapolis (IN)	20%
-	Los Altos (CA) Offices: Bellevue (WA)	15%
		100%

- International distributors are the Scicon division of British Petroleum in England, and CISI in France, Belgium, and Switzerland.

COMPUTER HARDWARE

- ASK owns nine Hewlett-Packard HP3000 minicomputers. Five are used for development, client demonstrations, and internal processing. Two are used for the processing service based in Los Altos.

  - Los Altos (CA).
    - 4 HP3000 Series III, MPE.
    - 2 HP 3000 Series 44, MPE.
    - 1 DEC VAX 11/780.

  - Orange (CA), Hinsdale (IL), Syosset (NY).
    - 1 each HP 3000 Series 30, MPE.

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In Dec coming out w/new income graphics pkg

Carry Yost new Mktg/Comm Director
Called 5/82 to introduce himself as the person to contact for next update

COMPANY HIGHLIGHT

ASK COMPUTER SYSTEMS, INC.
730 Distel Drive
Los Altos, CA 94022
(415) 969-4443

Sandra Kurtzig, President
Private Corporation
Total Employees: 75
Total Revenues, Fiscal Year End
6/30/80: $9,025,699

THE COMPANY

- ASK Computer Systems, Inc. was founded by Sandra Kurtzig in 1972 as a contract programming firm. The company was incorporated on July 1, 1974, and now provides manufacturing and financial management software products, turnkey systems and processing services primarily to the manufacturing industry.

  - On July 1, 1980, the company changed its name from ASK Computer Services, Inc., to better reflect its current business.

- FY 1980 revenues rose 320% to $9 million from $2.1 million in FY 1979, continuing ASK's exceptional growth pattern. Net income climbed 621%, from $150,236 in FY 1979 to $1.1 million in FY 1980. A four-year financial summary follows:

ASK COMPUTER SYSTEMS, INC.
FOUR-YEAR FINANCIAL SUMMARY
($ Thousands, Except Per Share Data)
(FYE 6/30)

Unaudited

ITEM \ FISCAL YEAR	1980	1979	1978	1977
13,000,000 Revenues	$9,026	$2,148	$ 551*	$ 303*
707 Pct. Inc. · Percent increase from previous year	320%	290%	82%	--
1,491 Net income	$1,082	$ 150	$ 45*	$ 33*
· Percent increase from previous year	621%	233%	36%	--
.38 Earnings per share	$ 0.~~45~~ .37	$ ~~0.04~~ .06	$0.02*	$0.01*
· Percent increase from previous year	1025%	100%	100%	--

* Company Estimate

3,750,600 3,750,300 shares

AUG 5th Ad's 3,965,300

3 for 2 stock split in May '81

December 1980
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INPUT

- The company's outstanding growth in revenue and net income for fiscal years 1979 and 1980 are attributed to the development of ASK's first direct sales force two years ago.

- R&D expenditures averaged approximately 9% of total revenues for fiscal years 1979 and 1980.

Calendar —

- Management projects revenues of between $16.5 and $20 million for FY 1981.

- ASK maintains representative arrangements for the sale of its software with two European companies.

  - Scicon Consultancy International, Ltd., based in London, is a subsidiary of British Petroleum Company.

  - CISI (Compagnie Internationale de Services en Informatique), owned by the French Atomic Energy Authority, is headquartered in Paris.

- ASK's 75 employees are divided approximately as follows:

Marketing/sales/field technical	35
Research and development	28
General and administrative	12
	75

KEY PRODUCTS AND SERVICES

- Approximately 80% of ASK's FY 1980 revenues were derived from turnkey system sales. The remaining 20% were derived from software package sales and installation fees. Royalties from software accounted for $200,661 of FY 1980 revenues.

- ASK markets the MANMAN® Family of Products, a series of on-line, interactive, user-oriented manufacturing and financial management systems designed for use with the Hewlett-Packard 3000 minicomputer. MANMAN provides tools for storing, retrieving and manipulating information from all phases of the manufacturing operation.

  - MANMAN's modular structured systems are integrated via a common data base using IMAGE, HP's data base management system.

  - MANMAN software may be licensed separately or purchased as a turnkey system with HP 3000 hardware and peripherals. Discounts are available on both hardware and software when purchased together.

  - Prices for turnkey systems range from $130,000 to $240,000, depending on software modules and hardware configurations selected. The average system sells for $195,000.

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- MANMAN systems are sold to companies with around $4 million in revenues and 100 employees, or larger. ASK has installed approximately 150 turnkey systems to date.

- MANMAN/MM, Manufacturing Management System, provides accurate and timely information for improvement in customer service and reduction in inventory investments and operating expenses.

  - Developed by ASK, MANMAN/MM was introduced on Tymshare's network in 1974. Turnkey systems based on HP 1000 minicomputers were first offered in 1975, and in August 1978 were made available on the HP 3000. MANMAN/MM received ICP's $5 million award in April 1980.

  - MANMAN/MM may be licensed separately for $50,000 and consists of the following seven application modules:

    . Inventory Control.
    . Bill of Material/Engineering Design.
    . Work-in-Process/Shop Floor Control.
    . Purchasing.
    . Material Requirements Planning.
    . Capacity Requirements Planning.
    . Cost Accounting.

- ASK's financial management systems cover a full range of accounting functions developed specifically for the manufacturing environment. The systems act as a counterpart to MANMAN/MM, managing sales and cash flow and providing numerous analysis reports for financial and administrative management. Originally termed FINMAN, the systems were introduced on the HP 1000 in June 1977 and were made available on the HP 3000 in April 1979.

  - MANMAN/OMAR, Order Management and Accounts Receivable System, licenses for $20,000 and consists of the following six modules:

    . Sales Order Entry.
    . Invoicing.
    . Accounts Receivable.
    . Cash Receipts.
    . Sales Analysis.
    . Master Scheduling.

  - MANMAN/AP, Accounts Payable System, licenses for $10,000 and is composed of three modules:

    . Voucher Processing.
    . Accounts Payable.
    . Cash Disbursements.

  - MANMAN/GL, General Ledger System, licenses for $10,000 and consists of these three modules:

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- General Ledger.
- Budgets.
- Financial Statements.

- On October 16, 1979, an agreement giving Sperry Univac worldwide marketing rights to ASK's MANMAN/MM system was announced.

  - The addition of MANMAN to its product line enables Univac to offer single vendor-supplied manufacturing systems covering the range from minicomputers to large-scale mainframes.

    - MANMAN has been adapted for use with Univac V77-600 and V77-800 minicomputers.

Price by module not transaction

- In September 1980, ASK introduced the MANMAN On-Line Service Bureau. All MANMAN application modules are available on the processing service, which runs on HP 3000 Series III minicomputers located at the company's headquarters.

  - ASK's nationwide network may be accessed via dial-up, leased lines or TYMNET.

INDUSTRY MARKETS

- ASK's FY 1980 revenues are distributed approximately as follows:

Discrete manufacturing	87%
Process manufacturing	8
Wholesale distribution	5
	100%

GEOGRAPHIC MARKETS

- An estimated 95% of ASK's FY 1980 revenues were derived domestically. International sales accounted for 5% of revenues. A detailed distribution of ASK's FY 1980 revenues by geographic region follows:

Price by module – discounted if they eventually go in house

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New England	15%
Middle Atlantic	15
East North Central	12
West North Central	2
South Atlantic	3
East South Central	2
West South Central	3
Mountain	3
Pacific	40
Total U.S.	95%
Canada	1%
Europe	4
Total International	5%

- ASK's four regional offices, which provide sales and technical support, are located in Los Altos and Orange (CA), Hinsdale (IL) and Syosset (NY).
  - Seven branch offices are located in Calabasas (CA), Cleveland, Dallas, Houston, Hartford (CT), Boston and Philadelphia.

COMPUTER HARDWARE

- ASK maintains the following equipment.
  - Los Altos (CA):
    - Two HP 3000 Series III, MPE.
    - One HP 1000, RTE.
    - One Univac V/77, Vortex.
  - The Syosset (NY) and Orange (CA) regional offices each have an HP 3000 Series III, running under MPE.

Using Tymnet now

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ASPEN RESEARCH, INC.
1350 Bayshore Highway #630
Burlingame, CA 94043
(415) 340-1588

Alan P. Parnass, President
Private Company
Total Employees: 15
Total Revenue, Fiscal Year End
12/31/89: $1,000,000*

*INPUT estimate

The Company

Aspen Research, Inc. (Aspen) was founded in 1985 by Alan Parnass. The company was organized to develop and market software products for large corporations moving toward distributed computing and desiring access to mainframe applications from networked desktop computers.

- Aspen considers itself a pioneer in the development of PC-based application development tools for cooperative processing across multi-platform environments, including IBM, Hewlett-Packard, DEC, Prime, and other large system manufacturers.

- Aspen developed ENTER/3270, the first commercially available cooperative processing tool for applications developers, establishing connectivity between their companies' IBM mainframes (S370) and midrange (IBM S/3X, S/400) systems and the growing numbers of desktop workstations. Introduced in 1986, ENTER/3270 focused on micro-mainframe communications.

- During the next three years, Aspen took the core technology of ENTER/3270 and went on to design MOZART, a complete applications development system with SAA/CUA compliance.

Aspen's principal competition comes from MultiSoft (InFront product) and Interactive Images (Easel product).

Key Products and Services

In March 1989, Aspen introduced MOZART, an integrated development system for creating and operating workstation-based cooperative processing applications with SAA/CUA compliance. With MOZART, developers can build intuitive, PC-style front-ends for their mainframe applications without rewriting any code.

MOZART combines a development environment (Composer) with a runtime environment (Performer) to form a complete applications development system. MOZART includes an

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Integrated Database Facility allowing MOZART applications to directly read and write data base files in dBASE III-compatible format. A runtime environment helps applications developers distribute MOZART-developed applications to their users.

- The Composer developer's toolkit offers an object-oriented, event-driven fourth generation language with scripting capability, a library, and a set of interface design utilities.

- Performer is a runtime monitor that sits between the emulator's Applications Programming Interface (API) and the PC system, managing information flow to and from the mainframe and automatically loading and running the appropriate MOZART application.

- The Librarian provides a controlled method for distributing software in a cooperative processing environment. PC files (MOZART or other commercial applications) are automatically stored and distributed between the host computer and remote PCs. The Librarian transfers files directly through 3270 screens using a proprietary data compression and conversion technique developed at Aspen.

MOZART is hardware and operating system independent, supporting multi-platform environments common to most large corporations. Aspen is evaluating and planning versions of MOZART for OS/2, UNIX, and Macintosh environments for the early 1990s.

Aspen technical support is provided through telephone support, an electronic bulletin board service, and system documentation. The company also provides onsite consulting and training services for applications development.

Industry Markets

MOZART is currently in use at more than 300 major U.S. and international business and government organizations. MOZART provides generic front ends for electronic mail, file transfer and system navigation, plus industry-specific applications for banking, insurance, manufacturing distribution, health care, and defense engineering.

Client examples include the following:

- Michigan National Bank used Mozart to design and operate a cooperative processing front-end for a company-wide electronic mail system.

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- Squibb Corporation used MOZART to modernize its mainframe-based salary planning system, making it accessible to their Lotus 1-2-3 users on networked PCs through a common MOZART front-end.

- Emmanuel Medical Center selected MOZART as a front-end for its patient scheduling and accounts system.

- MOZART is being used to develop a multi-language front-end for English language applications to be used enterprise-wide by multinational companies. A Kanji version was recently developed in conjunction with Andersen Consulting for the Pacific Rim market.

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INPUT®

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

February 1998

Aspect Telecommunications - Call Center Services

Contact Information For Call Center Services in the U.S.:
Aspect Telecommunications
Cynthia Holladay
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USA
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Fax: +1 (408) 325 2260
Internet: http://www.aspect.com

The following profile outlines the services and support offered by Aspect Telecommunications for Call Center Services

Company Background

Aspect Telecommunications was founded in 1985. In 1996, the company's worldwide call center revenues were $309 million. More than 25% of its activities are outside the US. The company provides application software products, which account for 75% of its total revenues, and services such as product support, consultancy services, systems integration, and application management.

Aspect Telecommunications provides solutions to all industry sectors, and its major clients are from the banking and finance sector, the telecommunications industry, the technology industry, the travel and hospitality industry, the business services sector and the insurance sector.

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Call Center Solutions

Aspect Telecommunications creates complete, integrated call center solutions for enterprises around the world. The company focuses exclusively on the call center, supplying innovative products and services that enable companies in a wide range of industries to build lasting relationships with their customers.

Aspect Telecommunications systems manage the thousands of business-critical transactions that come into call centers every hour by telephone, fax, Web, and electronic mail. The company offers the full range ofcomponents necessary for integrated solutions in multisite, multimedia, and multivendor call center environments:

1. Standardized software applications designed to meet the complex challenges specific to call centers:
   - Enterprise Workflow routing
   - Business information management
   - Automation
   - Workforce productivity.

Aspect call center applications are targeted to leverage the key resources in an enterprise — enterprise systems, information, business processes, and human skills—and can be easily customized to address changing business conditions without costly reengineering.

2. Integrated architecture based on a set of integration enablers built on open technologies:
   - Configuration and systems management
   - Computer-Telephony Integration (CTI) enablers
   - Integration bridges and toolkits
   - Host access to back-end operations, such as legacy systems, databases, and servers.

This set of enablers integrates the software with the Aspect ACD — to optimize the call center as a multifunction business asset. Aspect also supports other ACD switches with its Prospect CTI routing software.

3. Services that support and enhance call center performance:
   - Computer-telephony integration
   - Business Process Reengineering (BPR)
   - Workflow redesign
   - Client/server application design and development
   - Legacy-system integration
   - GUI design and development

Technology project management

Aspect has also leveraged extensive experience in inbound and outbound call center management, ACD, VRU, and Application Bridge products to build a world-class consulting organization, Consulting and Systems Integration (C&SI). The goal of this consultancy is to

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facilitate call center business reengineering and the implementation of advanced technologies, so customers can better achieve their strategic objectives.

Exhibit 1 shows Aspect Telecommunications IT software and services activities in the call center business.

Exhibit 1

Aspect Telecommunications Call Centers IT Software and Services, 1997-2000

Type	% of 1996 Revenues
Professional Services / Consultancy	Included in Other
Systems Integration	Included in Other
Systems Operations	Included in Other
Application Management	Included in Other
Business Operations	-
Processing Services	-
Application Software Products	75%
Other: Product Maintenance	25%

Source: Aspect Telecommunications

Operations and Structure

As part of a service continuum, Aspect's call center design and support teams work to meet and exceed each customer's specific business requirements, from the initial phase of planning and implementing a solution onward. Aspect's in-house field organization is available around the clock and around the world with one support specialist available per five systems.

Aspect's staff consists of professionals with unparalleled experience in helping industry leaders with operational decisions, technology design and implementation, and key projects.

Alliances and Partnerships

- Workforce Management: Affinitec Call Center Systems, EIS Cybernetics, IEX, TCS Management
- Customer Interaction: IMA, Vantive, Quintus, Clarify, Remedy, Scopus, Chordiant, Siebel, Versatility
- CTI: Dialogic, Aristacom, Nabnasset
- IVR: Brite, CCS, Edify, Intellisystems, InterVoice, Periphonics, Syntellect
- Internet Solutions: Webline Communications

References

Exhibit 2 in the following pages, shows case studies of call center major projects that Aspect Telecommunications has undertaken.

Major Strengths

- Highest customer satisfaction rating of any call center vendor
- 100% focus on mission-critical call center customer needs
- Easily customizable, integrated product and service offerings that deliver measurable business advantages

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Company Strategy of Development

- Develop new ways to deliver service through new media (fax, e-mail, Web) and new models of communication
- Develop tools to make call center information available to multiple business units throughout the enterprise
- Integrate multivendor solutions

Exhibit 2

Selected Call Center Case Studies - Aspect Telecommunications

Customer	Project Details
Towers Perrin	This world leader in contracted benefits administration wanted to create a world-class call center to service its Fortune 500 clients. A system was designed to integrate the telephone switch, client-based DirectTalk/6000 IVRs, desktops for service representatives, and benefits applications based on CICS, DOS, and Windows. The system provides information transfer between applications, information pre-fetch, reporting and administration of client-specific data, and a consistent human interface to all back-end systems. The system dramatically reduced the amount of paperwork, toggling between applications, and repeated entry of data. It also reduced the training requirements and the call work times and after-call work times required for all customer transactions. This system will be implemented on a worldwide basis.
Synnex	Synnex Information Technologies is a leading national distributor of computer products headquartered in Fremont, California. The firm selected Aspect's C&SI group and Prospect software to provide a CTI solution to its sales, customer service, and technical support staff. Utilizing the Prospect CTI Toolkit as the foundation, the solution provides agents with (1) a call routing process based on ANI, area code/exchange, and/or DNIS; (2) a Call Monitor window used to answer calls and identify customers based on their ANI; and (3) screen pop of Synnex's legacy system via the Call Monitor window to navigate the agent to the proper dialogue and populate the customer identification fields. The implementation involved discovery, design, testing, and rollout to successive agent groups, which were connected to a Northern Telecom switch running Meridian link. As a result of the boost in productivity, Synnex plans to duplicate the solution at its new site in Greenville, South Carolina, and has recently inquired about replicating it again in its UK facility.
Advanta Bank	Advanta Bank required an on-site project manager and system integration coordinator to oversee the aggressive implementation schedule of four remote Aspect CallCenter ACDs. Advanta is one of the top ten credit card issuers in the United States and is growing at a phenomenal rate. Advanta wanted a project manager to act as a single point of contact and be "Advanta's technical voice" across their participating organizations, as well as to Aspect and other third-party service providers. The Aspect C&SI project manager/system integrator reported directly to Advanta's IT call center installation manager. He worked with the key call center individuals, including staff at Advanta's site facilities, information technology groups, the local Telco, Nortel, Conversant, Davox, and Aspect. In this role, he developed a detailed project implementation schedule for each

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	call center installation site. He also developed a detailed multivendor integration test schedule that was exercised at each respective site prior to system cutover. As the project unfolded, the C&SI project manager assumed greater responsibilities in working directly with the end-user customer service group in designing and implementing CustomView ReportWriter/Runner and CustomView Producer/Director custom solutions. The C&SI project manager/system integrator also provided other technical services that historically had been provided by the customer or other Aspect organizations. These services included the following tasks: • Installed UNIX RealTime Server software • Installed CustomView reporting products on the supervisors' PCs • Developed, tested, and installed a CustomView ReportWriter script to automatically extract outbound call detail records for processing by another call detail reporting system (Telemate) • Created several miscellaneous custom reports using CustomView ReportWriter • Installed custom reporting software and trained Advanta's site supervisors in its use • Assisted in the development of consolidated call center CustomView Producer canvases Worked with the customer service organization to define their consolidated call center reporting requirements

Source: Aspect Telecommunications

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COMPANY HIGHLIGHT

ASSOCIATED COMPUTER CONSULTANTS
228 East Cota Street
Santa Barbara, CA 93101
(805) 963-8801

Roland Bryan, President
Private company
Total employees: 29
Total revenues, fiscal year end 12/31/77: $1,500,000

THE COMPANY

- Associated Computer Consultants (ACC) originated in 1975 after its founder and several key engineers cooperated in the development of the ARPANET and subsequently experimented with new attachments for Digital Equipment Corporation's PDP-11. ACC focuses on the production of interfaces for networking dissimilar computer processors. It has developed diagnostic software, as well as a software package to allow for the interconnection of a Burrough's B 6700 to commercial communication networks. It continues to develop new attachments for interfacing processors with networks. Management claims to have virtually no competition.

- Of the 29 employees, 15 are professional programmers and engineers who also serve as marketers for ACC's products and consultants for the 10% of ACC's business which is consulting.

  - Revenues are projected to reach $2 million for 1978.
  - By 1979 management hopes to increase its commercial percentage from the present 30% to 50%. Also by 1979 management wants to increase consulting services to 30% of the total business and to penetrate its foreign market more deeply.

- ACC was selected by the U.S. Department of Commerce to be one of 60 companies to participate in the "U.S. Export Development Mission" to Japan in October 1978.

KEY PRODUCTS AND SERVICES

- Network consulting services generate 10% of ACC's revenues, software packages 20%,, and hardware I/O channel attachments 70%.

- Programming and consulting experience at ACC includes design of small I/O driver software, network design; and extensive network-wide diagnostics.

- The company presently markets an X.25 protocol systems software package (X.25) for the Burroughs B 6700 to allow this major mainframe computer to work with commercial communication networks. Management expects to add more packages in fiscal 1978. Several of the packages will interface IBM 3271 remote terminals to X.25 networks.

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- In addition to providing network planning, consolidation advice to users of networks, and software packages to work with networks, ACC's principal developments lie in direct I/O channel attachments, and Burroughs, Control Data, Univac, Honeywell, and IBM equipment front-end processors. By mid-1978, they hope to have a channel attachment for the IBM Series/1 minicomputer with software in the first quarter of 1979.

- A new hardware product is a "Unibus Micro Channel" or UMC-Z80 which is a complete Zilog Z80 microprocessor system and operates attached to the PDP-11 Unibus on a Direct Memory Access basis. It is used for network protocol handling, pre- and post-processing of data, and as a communications controller.

INDUSTRY MARKETS The Federal Government contributes 70% of ACC's revenues. The remaining 30% of revenues are from banking and finance, discrete manufacturing, and education.

GEOGRAPHIC MARKETS

- Approximately 99% of fiscal 1977 revenues were derived from the U.S. and 1% from Europe.

  - Since most of the company's business centers around the Federal Government, the Washington, D.C., area produces the majority of ACC's revenues. Remaining revenues are fairly evenly distributed through all regions of the U.S.

  - European revenues are derived from Sweden, Germany, Norway, Italy, and England.

- Branch offices are located in Champaign, IL, and Columbia, MD.

- ACC has a distributor in Italy and is currently negotiating distribution rights for the rest of Europe.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

July 1997

Astea International Inc.

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Horsham, PA 19044
U.S.
Phone: (215) 682-2500
Fax: (215) 682-2515
Internet: http://www.astea.com

Astea Europe
De Molen 36
3994 DB HOUTEN
The Netherlands
Phone: 31 30 634 7888
Fax: 31 30 634 1472

President & CEO:	Zack Bergreen
Status:	Public
Employees:	570+ (2/97)
Revenue:	$62,708,000
Fiscal Year End:	12/31/96

Key Points

- Astea International Inc. is a leading provider of customer interaction software (CIS).
- During 1996, Astea acquired Bendata, Inc. and Abalon AB; both sell a single product in their respective CIS market sectors. Astea now claims to hold a 5% share of the global CIS market.
- In August 1996, Astea expanded its international reach and strengthened it Pacific Rim presence by opening four offices in Southeast Asia and Australia. The new offices are located in Brisbane and Melbourne (Australia), Singapore, and Hong Kong.
- In August 1996, Astea and Hissho Iwai Corporation, an $80 billion Japanese conglomerate, announced an exclusive distribution agreement to develop, distribute, and sell the Japanese language version of Astea's help desk solution throughout Japan.
- Astea has recently undergone downsizing in France and Germany to address an operating loss in 1996. Astea will emerge from the restructuring with a fully integrated, Internet-enabled software package: Green Shark.

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Company Description

Founded in 1979, Astea is a supplier of customer interaction software that enables the automation of sales, help desks, field service, and customer support.

The company also provides consultancy, training, and project management, as well as software support and maintenance services.

Astea has been a publicly held company since July 1995, and has since then differentiated itself to support the complete cycle of customer interaction via its two acquisitions.

Astea markets four software products that are based on client/server architecture: Heat, Dispatch-1, PowerHelp, and Abalon.

Operations and Structure

Astea, headquartered in Horsham (PA), has U.S. offices in Atlanta (GA), Bedford (MA), Chicago (IL), Los Angeles (CA), and Seattle (WA). International offices are located in Auckland (New Zealand), Brisbane, Melbourne, and St. Leonards (Australia), Hong Kong, Houten (the Netherlands), Koln (Germany), Paris (France), Singapore, and Tefen (Israel).

The Europe operation was recently downsized after the first-quarter 1997 results, with the closure of a German office and reduction in headcount at the French office.

This restructuring has left Astea in a stronger position with a now fully integrated set of software products and a centralized marketing strategy.

Astea has two subsidiaries:

- Bendata, Inc. is headquartered in Colorado Springs (CO) with an office in Wiltshire (U.K.). Bendata specializes in software for customer support desks.
- Abalon AB has offices in Stockholm and Gothenburg (Sweden). Abalon specializes in software for sales and marketing.

Employees

Astea currently has approximately 570 employees worldwide.

Company Strategy

Astea's mission is *to deliver the most innovative, customer-focused software and services to revolutionize the way companies service their customers and employees.*

Through the acquisitions of Bendata and Abalon, Astea can approach the market with a range of products that fully support the complete customer interaction cycle. This also enables cross-selling of products across each division's customer base to strengthen standing within each market segment.

Astea's multitiered sales strategy comprises:

1. Direct sales in its key vertical markets
2. Partnerships such as those with Oracle and Sybase to expand geographical presence
3. A global network of distributors to encourage and exploit emerging markets

Astea's short-term strategy involves restructuring and integration by moving key personnel, closing low-return offices, and establishing a common marketing style across all its products. Once this is accomplished, Astea expects a return to profitability, at which time it will re-establish its German and French offices.

Astea's long-term strategy involves increasing its worldwide presence through expansion of its direct sales and support infrastructure, and continuing growth through acquisitions, partnerships, and alliances.

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Astea has no plans to alter its expenditure on product development or sales and marketing during 1997.

Acquisitions

Recent acquisitions made by Astea include the following:

- In February 1996, Astea acquired Bendata, Inc. of Colorado (U.S.), for 1.5 million shares of Astea common stock. The acquisition was accounted for as a pooling of interests.
  - Bendata is an international supplier of help desk and customer support center software.
  - The company has more than 1,600 customers worldwide, including Mercedes Benz, ALLTEL, and Chevron.
- In June 1996, Astea acquired Abalon AB of Stockholm (Sweden), for approximately $16 million in cash and Astea common stock.
  - Abalon, founded in 1988, provides software for telesales and telemarketing. It has a base of approximately 250 customers, including Informix and Asea Brown Boveri.
  - Abalon has 60 employees (1996), and is the Scandinavian market leader in sales and marketing automation.
  - Abalon recorded revenue of $6.3 million in 1993, the last year that separate accounts were kept.

Financials

Total 1996 revenue reached $62.7 million, a 16% increase over 1995 revenue of $54.0 million. The company reported net losses of $2.8 million, compared to a net income of $5.2 million in 1995.

- During 1996, expenses of approximately $3.4 million were incurred in connection with the Bendata merger.
- Expenses of approximately $13.8 million were charged for purchased research and development in connection with the Abalon purchase during 1996.

A four-year financial summary is shown in Exhibit 1 on the following page.

Product development expenditures were approximately $8.0 million (13% of revenue) in 1996, compared to $4.2 million (8% of revenue) in 1995. Increased product development expenditure is due to Green Shark and Astea's commitment to enhancing established products.

Interim Results

Revenue for the six months ending June 30, 1997 reached $28.4 million, an 8% increase over $26.4 million for the same period in 1996. Net losses for the period, after restructuring and one-time charges in the first quarter, were $18.6 million, compared to a pro forma net loss of $2.3 million during the same period the previous year.

- Software license fees were $10.1 million for the period, compared to $11.4 million for the same period in 1996.
- Service and maintenance fees rose to $18.3 million, compared to $15.0 million for the same period the previous year.

One-time charges during the first quarter included $0.5 million for the write-off of certain capitalized software products, $2.6 million to settle certain disputes, $2.1 million for the write-off of goodwill, and a restructuring charge of $5.3 million.

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Exhibit 1

Astea International Inc.
Four Year Worldwide Financial Summary
($ Millions, except per-share data)

Item	Fiscal Year 1996	1995	1994	1993
Revenue	62.7	54.0	27.3	14.6
• Percent change from previous year	16.2%	97.3%	87.4%	3.3%
Income (loss) before taxes	(4.7)	8.5	3.3	1.3
• Percent change from previous year	(a) (55%)	254%	262%	281%
Net income (loss)	(2.8)	5.2	1.8	1.0
• Percent change from previous year	(54.4%)	190%	75%	N/A
Earnings (loss) per share	(0.22)	0.45	0.19	0.09
• Percent change from previous year	(49%)	137%	111%	N/A

Source: Astea International Inc.

(a) Includes one-time charges of $3.4 million in expenses related to the Bendata merger transaction and $13.8 million for purchased research and development related to the purchase of Abalon.

Revenue Analysis by Product/Service Mode

Astea derives revenue from two sources: license fees from its software products, and service and maintenance, which also encompasses consulting, implementation, and training.

A three-year summary of source of revenue is shown in Exhibit 2.

Exhibit 2

Astea International Inc.
Three-Year Source of Worldwide Revenue Summary
by Product/Service Mode
($ Millions)

Product/Service	1996 Revenue $	1996 Percent of Total	1995 Revenue $	1995 Percent of Total	1994 Revenue $	1994 Percent of Total
License Fees	$28.9	46%	$29.9	55%	$15.5	57%
Service and Maintenance	33.8	54%	24.1	45%	11.8	43%
Total	$62.7	100%	$54.0	100%	$27.3	100%

Source: Astea International Inc.

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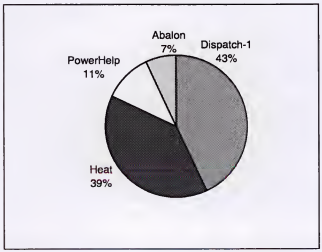
- The growth of service and maintenance revenue is due to the increased need for professional services resulting from new sales of Dispatch-1 and multiproduct packages. Both of these products require ongoing implementation and servicing.

- The decline in license fee revenue is due to increased competition and a fall in large volume purchases. However, revenue from help desk licenses actually increased despite the overall decrease.

Exhibit 3 shows that the majority of Astea's license fee revenue originates from Dispatch-1 and Heat. Abalon, despite contributing only 7% to license fee revenue, is considered a robust product whose sales will improve as Astea strengthens its presence in Europe.

Exhibit 3

Astea International Inc.
License Fee Revenue Split by Product, 1996



Source: Astea International Inc.

Geographic Markets

Exhibit 4, on the following page, shows a three-year summary of worldwide revenue by geographic area and service mode, which highlights a number of facts:

- The recent switch in demand for service and maintenance over software in the U.S. market.

- In 1996, service and maintenance revenue contributed the greater share of total revenue across all three geographic areas.

- Two thirds of Astea's business originates in the U.S.

Key Products and Services

Astea markets four products that together fully support all areas of the customer interaction cycle.

Astea sees this cycle as (1) beginning with informing and convincing new customers via marketing and sales, to (2) fulfilling expectations via delivery of the product, to (3) maintaining customer satisfaction via after-sales service.

Exhibit 5 is schematic of Astea's products. Each part of the cycle is serviced by one of Astea's products.

Abalon

Abalon is a sales and marketing automation package composed of several modules built around a central database. Customers choose the appropriate modules, then normally pay between $1,500 and $3,000 per designated user. The modules include applications for telemarketing, telesales, field sales, customer training, and billing.

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Exhibit 4

Astea International Inc.
Three-Year Worldwide Revenue Summary
by Geographic Area and Service Mode
($ Millions)

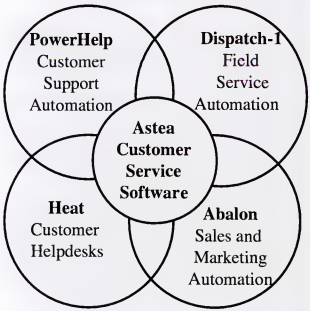
Product/Service Mode	Fiscal Year					
	1996		1995		1994	
	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
U.S.: Software	$19.0	30%	$24.3	45%	$15.4	56%
U.S.: Service	23.4	37%	18.5	34%	11.5	42%
U.S.: Total	42.4	68%	42.8	79%	26.9	98%
Europe: Software	5.7	9%	4.7	9%	N/A	N/A
Europe: Service	5.9	9%	4.3	8%	N/A	N/A
Europe: Total	11.6	18%	9.0	17%	N/A	N/A
Rest Of World: Software	4.1	7%	0.9	2%	0.1	1%
Rest Of World: Service	4.6	7%	1.2	2%	0.3	1%
Rest Of World: Total	8.7	14%	2.1	4%	0.4	2%
Total	$62.7	100%	$54.0	100%	$27.3	100%

Source: Astea International Inc.

* *Percentages are rounded.*

Exhibit 5

Astea Software Range



Other modules enable Abalon to access the Internet and allow sales teams to connect to the system via a mobile phone.

Abalon accounted for 7% of Astea's license fee revenue in 1996 and has been installed with over 250 customers, mainly in Scandinavia.

The sales and marketing of Astea's Abalon product has now passed the "planning stage" (according to Astea's Annual Report 1996) and revenue is expected to increase considerably.

Dispatch-1

Astea's original product is still its best selling, with 43% of license fee revenue, as shown in Exhibit 4.

Dispatch-1 is a field service software product that enables automation of operations such as

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product distribution and depot management, as well as logistics, administration, and financials.

Modules are also available that increase the capabilities of the base product. Some of these modules are: *Remote-1*, which gives field technicians remote wireless access to the software; *Manager's Window*, which allows managers to track their technicians in the field; and *Customer Access*, which gives customers access to Dispatch-1 in order to place parts orders, track service requests, and obtain progress updates.

Heat

Heat is Astea's customizable help desk product, which accounted for 39% of 1996 license fee revenue.

Heat aids end users in resolving problems, managing the flow of calls, and improving tracking, as well as automating alert conditions and analyzing trends.

PowerHelp

PowerHelp is Astea's solution for automating telephone-based customer support. It enables clients to analyze, direct, and resolve customers' technical queries.

PowerHelp supports a range of media such as video, scanned images, animation or graphics in order to help resolve the problem. PowerHelp also enables remote access to customers to allow electronic tracking of support calls. Customers' calls can be analyzed to assess staff efficiency and identify problem areas.

Green Shark

Astea has developed an integrated single architecture that will support both Astea and Microsoft software and enable the use of Web applications by clients and customers.

Based on industry standards, the Green Shark architecture enables users to share information between interfaced applications and allows additional software to be integrated when appropriate.

Green Shark products will be available toward the end of 1998, by which time PowerHelp will have been phased out to give Heat greater access to the market.

Marketing and Sales

Astea sells into a variety of markets, including telecommunications, electronics, medical technology and controls and instrumentation.

Astea discovered through its restructuring in early 1997, the necessity of different skills and techniques in marketing the individual products and the Green Shark package as a whole. Hence, a large budget has been allocated for the diverse sales and marketing team needed to maximize market penetration.

Clients

Astea's client base of approximately 3,500 companies and 75,000 end-users include the following:

Dispatch-1

- Granada, U.K.
- Bull Information Systems, France
- Motorola Pager, U.S.
- Bay Networks, U.S.
- Kodak Technical Services, Inc., U.S.
- ICL Sorbus, U.K.
- Alfa Laval, Sweden
- Philips Medical systems, the Netherlands
- AT&T Global Information Solutions, U.S.

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Abalon

- Sun Microsystems, Europe
- Eircell, Ireland
- NCC AB, Sweden
- Ericsson Mobile Communication AB, Sweden

PowerHelp

- AGFA, Germany
- Cogema, France
- Rockwell Automation, U.K.
- Genesys Health Systems
- City of Philadelphia, U.S.

Alliances

Astea has various partnerships and alliances with companies such as ARDIS, Fulcrum Technologies, Hewlett-Packard, Inference, Intermac, KnowledgeBroker, Inc., Motorola, Oracle Corporation, PowerSoft, Progress, RAM Mobile Data, Radio Paging America, ServiceWare, SkyTel, SMI, Sun Microsystems, Sybase, and Vertex.

Recently, Astea has concluded discussions with the Japanese company Nissho Iwai Corporation to develop and distribute a Japanese language version of Astea's help desk software.

Astea's Bendata has developed, in partnership with Asset Software International, an additional module for its help desk product Heat. Called Workgroup Asset Manager, it enables Heat users to see and manage a customer's assets.

Competition

Some of Astea's competitors include:

Dispatch-1: Astea faces competition from companies such as Pinnacle Computer Systems Limited and SAP.

Abalon: Astea faces established competitors such as Siebel Systems Inc., Aurum Software Inc., The Vantive Corporation, and Scopus Technology Inc.

Heat and PowerHelp: Larger publicly-owned competitors include: Clarify, Inc., Remedy Corporation, The Vantive Corporation, and Scopus Technology Inc.

INPUT Assessment

Astea has taken a relatively high risk stance in its purchases of Bendata and Abalon in close succession. In conjunction with restructuring, this resulted in losses in 1996 that continued into 1997 ($13.8 million). Despite the advantage that Astea now has in terms of its product range and market position, the wisdom remains to be seen in making expensive acquisitions so close together without fully integrating the companies first.

However, if Astea can overcome the indigestion from these acquisitions, the company's prospects look bright. By providing an integrated suite of products that address all aspects of the customer interaction cycle, the company has created a differentiated product offering in an increasingly congested and fragmented market place.

Over time, INPUT expects this marketplace to consolidate, with fewer, larger players offering more comprehensive customer service product offerings Here, larger customers will require integrated software packages, and in this respect, Astea's Internet-enabled Green Shark product strategy appears to be ahead of the game.

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FINANCIAL UPDATE TO PROFILE DATED OCTOBER 1983*

ASTRADYNE COMPUTER INDUSTRIES INC.
1122 Franklin Avenue
Garden City, NY 11530
(516) 742-9500

Seymour Eagel, President
Public Corporation, OTC
Total Full-Time Employees: 267
Total Revenue, Fiscal Year End 12/31/84: $11,098,544
Computer Services Revenue: $8,500,000**

ASTRADYNE COMPUTER INDUSTRIES INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1984	1983	1982	1981	1980
Revenue	$ 11,099	$ 10,429	$ 8,648	$ 7,345	$ 5,433
. Percent increase from previous year	6%	21%	18%	35%	35%
Income from continuing operations before taxes and extraordinary item	$ 472	$ 635	$ 405	$ 778	$ 392
. Percent increase (decrease) from previous year	(26%)	57%	(48%)	98%	67%
Net income (loss)	$ 448	$ 616	$ (454)	$(1,402)	$ 235
. Percent increase (decrease) from previous year	(27%)	236%	68%	(697%)	48%
Net earnings (loss) per share	$ 0.26	$ 0.34	$ (0.27)	$ (1.08)	$ 0.17
. Percent increase (decrease) from previous year	(24%)	226%	75%	(735%)	55%

* Replaces Financial Update of July 1984
** INPUT estimate

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- A three-year financial summary by industry market follows ($ thousands):

	1984	1983	1982
Revenue			
. Health care	$ 7,597	$ 7,701	$ 5,931
. Banking	3,481	2,717	2,717
. Corporate	21	11	-
	$ 11,099	$ 10,429	$ 8,648
Operating profit (loss)			
. Health care	$ 829	$ 1,463	$ 1,196
. Banking	740	364	241
. Corporate expenses (a)	(1,097)	(1,192)	(1,032)
	$ 472	$ 635	$ 405

(a) Corporate expenses include interest and administrative costs that are beneficial to the operations of both segments.

- Astradyne management attributes 1984 revenue and net income declines to reduced sales to the health care industry as a result of increased competition and a hospital strike in the New York area. Also, the company chose to write down to estimated salvage value certain assets no longer used by the company. This amounted to approximately $118,000 for the period.

- Revenue for the six months ending June 30, 1985 was approximately $5.1 million, a 13% decrease from $5.9 million for the same period in 1984. Net income for the period was $280,000, compared to $375,000 for the same period a year ago.

SOURCE OF REVENUE

- The majority of Astradyne's 1984 revenue was derived from computer services including processing services, software products, and associated professional services. The remainder of revenue was derived from noncomputer collection services for the health care industry.

- During 1984 Astradyne's Healthcare Services Division introduced Revenue Management Services (RMS), a hospital financial management system available to health care clients as a processing service. RMS subsystems include:

  - An on-line patient registration and financial identification system.

  - A patient accounting system designed to record income and control the assets created by hospital services to patients, including point of authorized disposition.

  - A billing and collection system for handling third-party payor requests.

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- An account disposition system that controls receivable accounts and generates management reports.

- Significant events in the Banking Division include the following:

  - During 1984 Computhrift, a major facilities management processing services customer, notified Astradyne that it had decided to manage its own data processing facility effective April 30, 1985. Astradyne has negotiated an agreement with Computhrift that will generate revenue in 1985 and will help to offset the loss of profit resulting from the non-renewal of the contract.

  - Four of the eight thrift institutions serviced by Astradyne's Kingston (NY) data center have converted to in-house or other service arrangements. As a result, Astradyne management has concluded that serving the remaining institutions at Kingston would be unprofitable and has made arrangements to terminate the Kingston operation.

  - The closing of the division's Computhrift and Kingston operations will reduce 1985 gross revenue by approximately $1.5 million and gross profit by approximately $240,000, net of transitional and other payments.

  - During 1984 Astradyne introduced disaster recovery services for thrift institutions using Astradyne's ASTRACLASS software product.

  - Four ASTRACLASS systems were installed during 1984 and two in early 1985, bringing the total number of installations to over 24.

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FINANCIAL UPDATE TO HIGHLIGHT DATED OCTOBER 1983

ASTRADYNE COMPUTER INDUSTRIES INC.
1122 Franklin Avenue
Garden City, NY 11530
(516) 742-9500

Seymour Eagel, President
Public Corporation, OTC
Total Full-Time Employees: 224
Total Revenue, Fiscal Year End 12/31/83: $10,429,006
Computer Services Revenue: $7,800,000*

ASTRADYNE COMPUTER INDUSTRIES INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1983	1982	1981	1980	1979
Revenue	$ 10,429	$ 8,648	$ 7,345	$ 5,433	$ 4,010
. Percent increase from previous year	21%	18%	35%	35%	26%
Income from continuing operations before taxes	$ 635	$ 405	$ 778	$ 392	$ 235
. Percent increase (decrease) from previous year	57%	(48%)	98%	67%	N/A
Income from continuing operations after taxes	$ 329	$ 217	$ 382	$ 235	$ 159
. Percent increase (decrease) from previous year	52%	(43%)	63%	48%	94%
(Loss) from discontinued operation	-	$ (671)	$ (1,784)	-	-
Net income (loss)	$ 616	$ (454)	$ (1,402)	$ 235	$ 159
. Percent increase (decrease) from previous year	236%	68%	(697%)	48%	94%

*INPUT estimate

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Earnings per share from continuing operations	$ 0.18	$ 0.13	$ 0.29	$ 0.17	$ 0.11
. Percent increase (decrease) from previous year	38%	(55%)	71%	55%	83%
Net earnings (loss) per share	$ 0.34	$ (0.27)	$ (1.08)	$ 0.17	$ 0.11
. Percent increase (decrease) from previous year	226%	75%	(735%)	55%	83%

- The above financials have been classified to segregate the results of the discontinued operations of Astradyne National Medical Management Corporation subsidiary in March 1982.

SOURCE OF REVENUE

- INPUT estimates 75% of Astradyne's 1983 revenue was derived from computer services and 25% from noncomputer collection services for the health care industry.

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COMPANY HIGHLIGHT

ASTRADYNE COMPUTER INDUSTRIES INC.
1122 Franklin Avenue
Garden City, NY 11530
(516) 742-9500

Seymour Eagel, President
Public Corporation, OTC
Total Full-time Employees: 181
Total Revenue, Fiscal Year End 12/31/82: $8,648,205
Computer Services Revenue: $6,700,000*

THE COMPANY

- Astradyne Computer Industries Inc. (ACI), incorporated in 1968, provides processing, facilities management, and financial account management services; software products; and professional services to thrift banking institutions, hospitals, and health care facilities.

- On March 2, 1982, ACI sold substantially all of the assets of its Astradyne National Medical Management Corporation subsidiary to two former officers of ACI. The sale, recorded December 31, 1981, resulted in a pretax loss of approximately $2.3 million.

  - As a consideration, the buyers assumed certain liabilities amounting to $1.5 million.

  - The subsidiary, acquired from National Medical Management Inc. in January 1981, provided computerized billing services and financial account management and collection services to physicians and had revenue of $4.9 million and net losses of $71,180 in 1981.

  - Losses from the discontinued operations continued into 1982, resulting from additional liabilities that were not assumed by the purchaser, and from the final disposition of the remaining assets.

- Astradyne's 1982 revenue reached $8.6 million, an 18% increase over 1981 revenue of $7.3 million. Net losses decreased 68% from $1.4 million in 1981 to $454,294 in 1982. In the five-year financial summary that follows, revenue figures represent continuing operations only. The financials have been reclassified to segregate the results of the discontinued segment and estimated loss on its sale.

*INPUT estimate

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ASTRADYNE COMPUTER INDUSTRIES INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1982	1981	1980(a)	1979(a)	1978(a)
Revenue	$8,648	$7,345	$5,433	$4,010	$3,181
. Percent increase from previous year	18%	35%	35%	26%	43%
Income from continuing operations before taxes	$ 405	$ 778	$ 392	$ 235	N/A
. Percent increase (decrease) from previous year	(48%)	98%	67%	N/A	N/A
Income from continuing operations after taxes	$ 217	$ 382	$ 235	$ 159	$ 82
. Percent increase (decrease) from previous year	(43%)	63%	48%	94%	N/A
(Loss) from discontinued operation	$ (671)	$(1,784)	-	-	-
Net income (loss)	$ (454)	$(1,402)	$ 235	$ 159	$ 82
. Percent increase (decrease) from previous year	68%	(697%)	48%	94%	N/A
Earnings per share from continuing operations	$ 0.13	$ 0.29	$ 0.17	$ 0.11	$ 0.06
. Percent increase (decrease) from previous year	(55%)	71%	55%	83%	N/A
Net earnings (loss) per share	$ (0.27)	$ (1.08)	$ 0.17	$ 0.11	$ 0.06
. Percent increase (decrease) from previous year	75%	(735%)	55%	83%	N/A

(a) Restated to reflect the adoption in 1981 of Statement of Financial Accounting Standards No. 43 (method of accounting for vacation benefits from the cash to the accrual basis).

- ACI management attributes increases in revenue to increased sales of Cash Maximization services to hospital customers.

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- The decline in 1982 income from continuing operations after taxes resulted primarily from increased labor costs associated with Cash Maximization services and legal fees resulting from a proposed acquisition and public offering of securities that were not consummated.

- Revenue for the six months ending June 30, 1983, reached $5 million, a 27% increase over $3.9 million for the same period in 1982. Net income for the period reached $367,811, a 335% increase over the net loss of $156,736 reported in 1982.

  - The increase in net income is attributed to increased sales in Cash Maximization services.

- As of December 31, 1982, ACI had 181 full-time employees. The company currently has 189 full-time employees, segmented as follows:

Marketing/sales	7
Programming and systems	27
Operations	133
Administrative and clerical	14
Executive	8
	189

  - The company also employs approximately 75 people on a temporary basis in operations.

KEY PRODUCTS AND SERVICES

- INPUT estimates 77% ($6.7 million) of ACI's 1982 revenue was derived from computer services and 23% ($1.9 million) from noncomputer collection services for the health care industry.

  - A further breakdown of computer services revenue is estimated as follows:

	Revenue ($ millions)	Percent of Total
Processing services	$4.9	73%
Remote computing (30%)		
Batch (28%)		
Facilities management (15%)		
Software products	1.2	18
Professional services	0.6	9
	$6.7	100%

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- ACI provides remote batch processing services to approximately 20 health care facilities through SDK Medical Computer Services, Inc. (SDK) of Brookline (MA).

  - Clients transmit data via terminals to SDK's computer facility. The data is batch processed and the computer-generated reports are delivered to the client by courier the following day.

  - ACI bills its customers for all services performed, remitting a portion of the amount collected to SDK for the processing performed.

  - ACI derived the following revenue from its arrangement with SDK: $2 million, $1.8 million, $1.9 million for 1982, 1981, and 1980, respectively.

  - Applications available to clients include:

    . Patient Identification and Registration.
    . Admissions/Discharges/Transfers.
    . Patient Billing and Accounting.
    . Medicaid Management Information System Tape-to-Tape Billing.
    . All Third-Party Billing.
    . AHR Reporting.
    . Accounts Payable and General Ledger.
    . Budgeting.
    . Inventory Control.
    . Payroll/Personnel.
    . Uniform Billing.

- Approximately 80 health care institutions are using ACI's Cash Maximization services.

  - Cash Maximization generates increased cash flow and income through reconciliation of trial balances and aged account follow-up for third-party billings.

  - Services include third-party follow-up and recovery, retroactive billing, Medicaid management information system denials, and in-patient and out-patient lost revenue recovery.

  - Cash Maximization service revenue was $3.9 million, $2.4 million, and $1.3 million for 1982, 1981, and 1980, respectively. INPUT estimates $1.9 million of 1982 revenue was from computer-services-related processing.

  - ACI management believes these services will continue to represent a significant portion of revenue.

- ACI markets ASTRACLASS, an on-line applications software package for thrift banking institutions. The package was derived from CLASS (Century

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Loan and Savings System), a product developed and marketed by NCR. ASTRACLASS is designed for savings, checking, and loan banking functions and enables multiple banks to use a single data processing facility.

- ASTRACLASS runs on NCR Century and Criterion computers and licenses for approximately $75,000. Maintenance and support service is available for $25,000 per year. Approximately 90% of the company's customers contract for maintenance and support.

- Modules available include:

  - NOW/DDA-Overdraft and Line of Credit, which licenses for $30,000.
  - Consumer Loans, which licenses for $20,000, for dealer, floorplan, customer, and commercial loans.
  - Automated Teller Machines, which licenses for $20,000.
  - An investors package, which licenses for $25,000.

- ACI plans to develop additional modules for ASTRACLASS including point-of-sale terminals, central information file, and adjustable rate mortgages.

- ACI also markets software packages running on NCR equipment to hospitals and health care facilities. Applications include physicians' billing, inventory, pharmacy, and financial and statistical systems for nursing homes.

- Since 1974 ACI has performed facilities management processing services using ASTRACLASS for the Computhrift Corporation, a consortium of thrift banks located in the New York metropolitan area.

  - Approximately one million savings and loan accounts from 300 on-line terminals are currently processed by ACI at its data center in Kingston (NY).

  - ACI also provides ASTRACLASS processing at the Kingston data center to seven thrift institutions totaling 160,000 savings and loan accounts from 200 on-line terminals located throughout the upstate New York area.

- In July 1982 ACI introduced Data Cash$^{T.M.}$, a facilities management processing service, extending the Cash Maximization services provided to the health care industry.

  - The service provides hospitals with all personnel, management, and processing for patient registration, data collection, patient bills and statements, third-party billing, aged trial balances, and statistical analysis.

  - ACI currently has six hospitals contracted for this service.

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- ACI provides professional services consulting, system analysis, contract programming, and management consulting to clients in the banking and health care industries.

INDUSTRY MARKETS

- Approximately 69% of ACI's 1982 revenue was derived from the health care industry. The remaining 31% was derived from the banking industry.

GEOGRAPHIC MARKETS

- Over 90% of ACI's 1982 revenue was derived from customers in the New England, Middle Atlantic, and East North Central states, primarily in New York State. Less than 10% of revenue was derived from other areas across the U.S.

- Offices are located in Garden City and Kingston (NY), New York City, and Philadelphia.

COMPUTER HARDWARE AND SOFTWARE

- ACI has one NCR Centurion running under VRX installed at each of its data centers in Garden City and Kingston.

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COMPANY HIGHLIGHT

ASTRADYNE COMPUTER INDUSTRIES INC.
1122 Franklin Avenue
Garden City, NY 11530
(516) 742-9500

Seymour Eagel, President
Public Corporation, OTC
Total Full-Time Employees: 282
Total Revenue, Fiscal Year End 12/31/80: $5,432,849

PRINCIPAL BUSINESS

- Astradyne Computer Industries Inc. (ACI), incorporated in 1968, provides processing, facilities management, and financial account management services; software products; turnkey systems; and professional services to thrift banking institutions, hospitals and health care facilities, and physicians.

- In March 1970, ACI issued 79,050 shares of common stock to SDK Medical Computer Services Corporation in exchange for a royalty-free, exclusive license to sell, market, service, and use all health care packages developed by SDK. In September 1980, this license was converted to a nonexclusive license and all shares of stock were returned to Astradyne.

- In August 1981, ACI made its first public offering of 657,000 shares of common stock priced at approximately $6 per share.

  - Net proceeds will be used to repay indebtedness incurred from the acquisition of Astradyne's physicians' account management service and for working capital to support marketing expansion, services, and systems development.

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FINANCIALS ($ thousands, except per share data)

ITEM / FISCAL YEAR	1980	1979	1978	1977	1976
Revenue	$ 5,433	$ 4,010	$ 3,181	$ 2,223	$ 1,813
. Percent increase from previous year	35%	26%	43%	23%	N/A
Income before taxes and extraordinary item	$ 410	$ 244	$ 101	$ 48	$ 28
. Percent increase from previous year	68%	142%	110%	71%	N/A
Net income	$ 244	$ 164	$ 90	$ 65	$ 27
. Percent increase from previous year	49%	82%	38%	141%	N/A
Earnings per share	$ 0.18	$ 0.11	$ 0.06	$ 0.05	$ 0.02
. Percent increase from previous year	64%	83%	20%	150%	N/A

- Revenue for the four months ended April 30, 1981 increased 121% to $3.6 million from $1.6 million in 1980. Net income for this period rose 232% to $118,637 in 1981 from $35,693 in 1980.

  - Increases were principally due to the initiation of the physicians' account management service, which accounted for approximately $1.5 million in revenue during the first four months of 1981.

ACQUISITIONS

- In January 1981, ACI acquired the assets of a physicians' computerized billing and account management service from National Medical Management, Inc. for $1 million and an additional amount of up to $1.7 million, depending upon earnings during 1981 and 1982.

  - National Medical Management formerly operated as part of Itel Corporation's Medical Services division.

SUBSIDIARIES

- Astradyne National Medical Management Corporation, located in Port Washington (NY), provides physicians' billing and financial account management processing services.

EMPLOYEES

- ACI's 282 full-time employees are segmented as follows:

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Marketing/sales	15
Programming and systems	41
Operations	175
Administrative and clerical	40
Executive	11
	282

- In addition, the company employs 94 people on a part-time basis in operations.

SOURCES OF REVENUE

Processing services	60%
Remote Computing (34%)	
Batch (24%)	
Facilities management (12%)	
Software products	40%
	100%

PRODUCTS AND SERVICES

- ACI provides remote batch processing services to approximately 20 hospitals and health care facilities through SDK's Brookline (MA) computer facility. SDK retains a portion of the remitted processing revenue. Services cover virtually every financial and statistical health care application. Application areas are outlined in the exhibit.

- Since 1979, ACI has provided facilities management (FM) services under contract to a major hospital and its affiliated nursing home. In conjunction with these services, the company has developed a complete on-line hospital information system which it markets on an FM and turnkey basis. Available system modules are outlined in the exhibit.

- Approximately 30 health care institutions use ACI's Cash Maximization services. Cash Maximization generates additional revenue for hospitals through reconciliation of trial balance and aged account follow up. Services include third-party follow up and recovery, retroactive billing, Medicaid management information denials, and in-patient and out-patient lost revenue recovery.

- In January 1981, ACI introduced Astradyne Interactive Medical Systems (AIMS), a financial account management processing service for physicians. Services are provided to 1,400 physicians and consist of computerized billing and collection, determining insurance applicability, completing and processing third-party insurance benefit applications, follow up action on delinquent accounts, posting receipts, accounts receivable aging, and providing reports to physicians.

  - Optional services include automatic appointment scheduling, patient recall for follow-up care, and patient history and analysis.

- ACI markets ASTRACLASS, an on-line applications software package for thrift banking institutions. The package was derived from CLASS (Century

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EXHIBIT

ACI APPLICATION PROFILE

FACILITIES MANAGEMENT INTERACTIVE ON-LINE SYSTEMS	REMOTE COMPUTING APPLICATIONS
• Patient Identification and Registration • Patient Census • Admissions/Discharges/Transfers • Accounts Receivable Reporting • Patient Billing and Follow-up • Uniform Billing • AHR Reporting • DRG Grouping • Appointment Scheduling • Medicaid, Medicare, Blue Cross Tape-to-Tape Billing • Physicians' Billing • Financial Statements and Reports • Administrator Report • Accounts Payable • General Ledger • Asset Accounting • Budgetary Planning • Payroll/Personnel • Medical Records • Materials Management/Inventory Control/ Purchasing • Pharmacy Order Control • Laboratory Reporting • Nursing Stations • Fund Raising • Ad Hoc Reporting	• Patient Identification and Registration • Admissions/Discharges/Transfers • Patient Billing and Accounting • Medicaid Management Information System Tape-to-Tape Billing • All Third-Party Billing • AHR Reporting • Accounts Payable and General Ledger • Budgeting • Inventory Control • Payroll/Personnel • Uniform Billing

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Loan and Savings System), a product developed and marketed by NCR. ASTRACLASS is designed for savings, checking, and loan banking functions and enables multiple banks to use a single data processing facility.

- ASTRACLASS runs on NCR Century and Criterion computers and licenses for approximately $75,000. The product is currently installed in 12 data centers serving 60 banking institutions.

- Astradyne's NOW/DDA-Overdraft and Line of Credit Module was recently made available to CLASS users for a one-time fee of $30,000.

- ACI plans to develop new modules for ASTRACLASS including dealer, floor plan, customer, and commercial loans; automated teller machines; point-of-sale terminals; central address information file; and adjustable rate mortgages.

- Since 1974, ACI has performed facilities management services for the Computhrift Corporation data center, an organization formed by a group of ACI-serviced thrift banks located in the New York metropolitan area. The company developed ASTRACLASS in response to Computhrift's requirements, and now processes approximately one million savings and loan accounts through this installation.

  - ACI has also installed ASTRACLASS in its Kingston (NY) data center to provide processing services to thrift institutions in the upstate New York area.

- ACI also markets software packages running on NCR equipment to hospitals and health care facilities. Applications include physicians' billing, inventory, pharmacy, and financial and statistical systems for nursing homes.

- ACI provides professional services to its banking and health care clients.

INDUSTRY MARKETS

- ACI's 1980 revenue was distributed as follows:

Banking	37%
Hospitals and health care	63%

GEOGRAPHIC MARKETS

Middle Atlantic States (principally New York), Connecticut, and Illinois	90%
Other U.S., primarily California, Texas, and Florida	10%

- Regional offices and data centers are located in New York, Port Washington, Garden City, and Kingston (NY); Edison (NJ); Philadelphia, and Houston.

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COMPUTER HARDWARE AND SOFTWARE

- ACI maintains the following equipment at its data centers.
  - 1 NAS AS/5000.
  - 1 NAS AS/5.
  - 20 NCR Criterions.

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ATA SERVICES, INC.
2200 Mill Road
Alexandria, VA 22314
(703) 838-1900

Bill Busker, Executive Vice President and CEO
Private, Wholly Owned Subsidiary of the American Trucking Associations, Inc.
Total Employees: 25
Total Revenue, Fiscal Year End 6/30/88: $2,700,000
Noncaptive Information Services Revenue: $1,500,000

The Company

ATA Services, Inc. (ATAS), was founded in 1976 to provide computer-based services and related consulting to the American Trucking Associations, Inc. (ATA), the trucking industry, and government and commercial clients.

- ATA was formed in 1933 to represent the trucking industry before federal and state governments, and to provide educational materials and training to its members and the industry.

ATAS recently sold its proprietary software package, TRANSPRO, to Bluebird Systems of Carlsbad (CA).

- TRANSPRO is designed to handle the automation needs specific to the freight trucking industry.

ATAS's size and revenue have not changed substantially in the past three years.

- ATAS's 1986 revenue was estimated at $2.5 million, and its 1988 revenue was $2.7 million for an average annual growth rate of approximately 4%.

ATAS currently has 25 employees.

Key Products and Services

ATAS offers a variety of processing and professional services to the transportation and communications industry. Some of the services provided by ATAS include the following:

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- Computer timesharing
- EDI network support services
- Data base management
- Data extraction
- Data retrieval
- Data entry
- Systems integration
- Turnkey systems
- Consulting
- Applications development
- Specification development
- Systems management and tuning
- Phototypesetting
- PC product customization
- Mainframe product training
- PC product training

Examples of significant ATAS clients and the services ATAS provides those clients include the following:

- ATA (the parent company of ATAS) uses all of the services ATAS provides in support of the data base applications, publications, and data extraction requirements of ATA.

  - ATA accounts for approximately 45% of ATAS's revenue.

- CruiseNet Cellular Service: The services performed include design, programming, hardware installation, training, documentation, and roll-up accounting of "call-accounting" raw data extracted from cellular systems located on ships at sea.

- American Bus Association: The services performed include maintenance of software developed by ATAS; data manipulation and extracts in support of American Bus Association members; maintenance of the accuracy, completeness, and integrity of data; and data entry.

- Small Business Administration (SBA): ATAS maintains the SBA's data base on ATAS computers, and performs data extractions and disseminations for SBA.

- ATAS has also provided information services to prime contractors in support of Department of Transportation and Department of the Navy contracts.

ATAS offers the Central Site Translate Services of TranSettlements. TranSettlements' TranSend network is an EDI service designed to handle data interchange for freight companies,

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their customers, and their suppliers. The system provides data translation and a central repository for that information to enable processor to processor exchange of data on billing, ordering, and shipment information.

Industry Markets

INPUT estimates that ATAS derived 75% of its fiscal 1988 revenue from the transportation industry and the remaining 25% was derived from the communications industry.

INPUT estimates that approximately 20% of ATAS's fiscal 1988 revenue was government related.

Geographic Markets

ATAS derived 100% of its fiscal 1988 revenue from the U.S.

Computer Hardware and Software

ATAS maintains a data center at ATA headquarters in Alexandria (VA). ATAS uses the following hardware and software:

- 2 DEC VAX mainframes
- 1 DECSystem-10 mainframe
- LAN with 256 communications lines
- WAN using DEC Network Architecture
- More than 170 mini and micro computers
- AT&T System 75 PBX telephone system with over 400 stations

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COMPANY PROFILE

ATAC
1200 Villa Street
P.O. Box 370
Mountain View, CA 94042
(415) 965-8801

Al Bien, President
Private Corporation
Total Employees: 100
Total Revenue, Fiscal Year End
6/30/88: $9,000,000

The Company

ATAC was formed in July 1979 by senior staff from SRI International. The company provides a range of systems development professional services primarily to the Department of Defense and other agencies of the federal government.

A five-year revenue summary follows:

ATAC
FIVE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	6/88	6/87	6/86	6/85	6/84
Revenue	$9.0	$9.0	$9.0	$6.0	$4.2
• Percent increase from previous year	--	--	50%	43%	30%

Key Products and Services

One hundred percent of ATAC's revenue is derived from professional services.

ATAC focuses its software and services activities toward the government's management information and decision support systems requirements. The focus is on business systems rather than weapon systems.

- The company supports all phases of the application software development life cycle, from concept formation, through design, implementation, operations, and maintenance.

- ATAC has practical application experience with a number of CASE tools and software engineering methodologies. The

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company has used the MAESTRO system since 1980 and developed major enhancements to the basic system.

Examples of work in progress or completed include the following:

- U.S. Marine Corps.
  - Marine Corps Standard Supply System (M3S).
  - Marine Corps Real Time Finance and Manpower Management Information System (REAL FAMMIS).
  - Tactical Systems Inter-Operability and Intra-Operability Program (TACSIIP).
  - Marine Air-Ground Task Force Lift Requirement Model (MAGTF).
- U.S. Navy.
  - Management support and technical assistance for the Advanced Ships Development Program.
  - Operational support for the Automated Surface Ship Information System - Technical (ASSIST).
  - Integrated logistics support of the PHM Class ships.
  - Tactics development and operational performance evaluation of seabased airborne antisubmarine warfare systems.
- Other Department of Defense agencies.
  - U.S. Army: Intelligence Materiel Management Information System and Medical Manpower Utilization and Requirement System.
  - U.S. Air Force: Acquistion management training.
  - Defense Communications Agency: Defense Data Network Subscriber Data Base Management System.
- Aviation systems-related work for the Federal Aviation Administration (FAA) and other clients.
  - Airport and Airspace Simulation Model (SIMMOD).

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- National Airspace Capacity Simulation Model (NASCAP).
- Advanced Traffic Management for Aircraft Departures (DFM).
- Oceanic Air Traffic Control Center Consolidation and Automation (OATS).
- Airport Access Restriction Model (AARM).
- Advanced automated system design support (IBM subcontract).
- Naval Aviation Training System Model (NATS).

• Other government agencies.

- NASA, Ames Research Center: High Altitude Aircraft Research Project data facility operations.
- Immigration and Naturalization Service: Vehicle Accounting and Reporting System.
- U.S. Postal Service: Financial Information Reporting Management (FIRM) System.

ATAC has also won three Phase I Small Business Innovation Research (SBIR) projects.

Industry Markets

Approximately 60% of ATAC's revenue is derived from the Department of Defense, 30% from other federal agencies, and 10% from commercial clients. A further breakdown of ATAC's client base follows:

U.S. Marine Corps	35%
U.S. Navy	10%
U.S. Army	5%
U.S. Air Force	5%
Defense Communications Agency	5%
FAA	25%
NASA	5%
Other	10%
	100%

IBM is ATAC's largest non-government client.

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Geographic Markets

One hundred percent of ATAC's revenue is derived from the U.S.

ATAC has offices in Mountain View (CA), Kansas City (KS), and Herndon and Crystal City (VA).

The company also has on-site facilities for NASA-Ames (Moffet Field, CA), the U.S. Navy (Key West, FL), the FAA (Washington, D.C.), and Telenet (Reston, VA).

Computer Hardware

ATAC operates and maintains an integrated network of systems at its various offices in support of its professional services activities.

Systems installed include:

- 1 IBM 4381.
- 1 IBM 9370.
- 1 HP 3000.
- 1 DEC VAX.
- Sun and Apollo workstations.
- Various microcomputers.

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(703) 838-1900

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- LAN with 256 communications lines
- WAN using DEC Network Architecture
- More than 170 mini and micro computers
- AT&T System 75 PBX telephone system with over 400 stations

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COMPANY BRIEF

Primary Industry-Specific Market: Federal Government

ATE Associates, Inc.
5707 Corsa Avenue
Westlake Village, CA 91362
(818) 991-4001

CEO: Sy Barasch, President
Private Company
Founded: 1968

Employees: 51 (11/86)
Revenue (FYE 8/31/86): $3-4 million*

The Company: ATE Associates provides professional services custom software development

Sources of Revenue:
- Professional Services (100%)

Key Services:
- Professional Services
  - Custom software development primarily of systems used for the testing of airplanes

Target Industries:
- Federal government
- Aerospace

Geographic Markets:
- U.S. (100%)

*INPUT estimate

October 1986

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

December 1997

AT Kearney/EDS — SAP Services

Contact Information:

Americas: Bob Braglia, Division Manager
(248) 528-4396
Mike Bermingham Resource Manager
(248) 524-8422

EMEA: Diane Davidson, Division Manager
32-2-711-3561
Hannah Goodman, UK and Ireland Manager
44-171-468-8725

AT Kearney, Inc.
222 West Adams St.
Chicago, IL 60606
www.atkearney.com

The following profile outlines the services and support offered by AT Kearney and EDS to its clients for SAP services.

Company Background

In 1996, A.T. Kearney and EDS launched a joint initiative to capitalize on the multiple skills of both organizations across their broad professional and technology services continuum. This new global team, Enterprise Solutions, is led by an A.T. Kearney Officer in Charge, and supports key market opportunities of EDS business units, A.T. Kearney account teams or combined EDS and A.T. Kearney initiatives.

The core competency of this team is the integrated, rapid deployment of world-class enterprise software packages that complement an overall business transformation or process change. But the objective is not merely systems implementation, it is the achievement of significant economic results for the customers' business.

By leveraging multiple skills and knowledge across A.T. Kearney and EDS, the scope and coverage of the Enterprise Solutions aims to be unmatched in the marketplace. Additionally, this team has global span, thus offering clients the benefit of a harmonized delivery framework and process, around the world.

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SAP Activities

Through its EDS parent, Enterprise Solutions has been an SAP Global Logo Partner in both SAP R/2 and R/3 applications since May, 1995.

Employees

Enterprise Solutions provides its clients with a team of more than 700 highly skilled functional and technical professionals, well qualified to implement leading-edge client/server enterprise software packages such as BAAN, Oracle, PeopleSoft, QAD, SAP and others. These enterprise applications integrate key information systems across a company's supply chain, encompassing procurement, manufacturing, sales, order management, and distribution. Enterprise applications can also include key corporate systems such as executive information systems, human resources, finance and accounting systems.

Consulting Skills/Training

The Enterprise Solutions team benefits from the ability to leverage the extensive technical, professional and consulting training programs of both EDS and AT Kearney as well as software suppliers certification training programs. Additionally, the Strategic Information Technology Practice (SITP) of AT Kearney provides Enterprise Solutions consultants with training in its proprietary consulting and delivery framework, JUPITER.

Services

The multiple enterprise application package portfolio allows clients to select a true "best fit" for their business situation. AT Kearney's service approach can be configured to provide clients a multi-disciplined team of experts incorporating industry-specific knowledge, as well as business strategy, project management, reengineering, change management and process technology skills, along with the specific integrated enterprise applications that support the necessary operational work flows and information. Speed in achieving key business results is a key benefit. Implementations have been completed as much as two times faster than estimated by competition, allowing clients to reap significant economic benefits much more quickly.

Industry Knowledge and References

- *Industry expertise*:

  - Automotive

  - Manufacturing

  - Aerospace and Defense

  - Energy

  - Chemicals

  - Finance

  - others

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Exhibit 1

Selected Projects

Customer	Industry	Project Details
Basic Manufacturer N. American	Manufacturing	SAP R/3 implementation to align reengineered processes with new production facility. Reduced cost and improved customer service and support. Replaced all major information systems in less than 18 months.
Chemical production/distribution company European	Chemical	SAP R/3 implementation of materials management, sales and distribution and finance to provide improved logistics management, sales and accounts receivable processes.
Electric utility European	Energy	SAP R/3 project. Designed new processes for engineering, purchasing and logistics and implemented new purchasing and inventory management system.
Major manufacturing and packaging company European	Manufacturing	Project planning, design and implementation strategy for major operational areas including production planning materials management, purchasing and quality as well as key staff functions including finance and human resources.

Case Study

Fortune 50 Consumer Products Company

The client situation included multiple, overlapping and duplicate functional initiatives to redesign inventory, order fulfillment and customer service systems with a target timeframe of from three to five years for project completion. The client also was attempting to create a new vendor managed replenishment system to establish an additional competitive advantage in distribution.

AT Kearney's objective was to consolidate disparate, uncoordinated initiatives and deliver significant business improvements in under two years.

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The approach used was to shut down or collapse a number of functional projects, identify cross- functional business and process requirements and business case rationale then develop a software RFP. The team evaluated and selected "best of breed" software and led the business process reengineering, prototype development, testing, change management and rollout.

The client results included a full implementation in 18 months-on time and on budget. The solution utilized SAP R/3 for inventory management, order fulfillment and customer service and Manugistics for inventory planning. The ultimate benefit to the client was more than $50 million in yearly reduction in distribution and process costs.

Strategic Positioning

AT Kearney sees the scope and coverage of the Enterprise Solutions approach as unique in the marketplace. The key advantage of this joint initiative, according to AT Kearney is the ability to leverage the multiple skills across EDS and A. T. Kearney which are required to fully implement enterprise-wide applications. Additionally, this team has the ability to implement on a global basis thus offering its multinational clients the full benefit of their enterprise applications investment.

A track record of speedy implementations, a large, international talent pool of experts trained in all disciplines and the global reach and resources of both A.T. Kearney and EDS sets the Enterprise Solutions team apart in this marketplace.

Competition

Enterprise Solutions competes in this marketspace with the 'Big Six', Andersen Consulting, Price Waterhouse, KPMG and Deloitte/ICS, as well as with smaller, local or niche companies in various markets.

Global / Target / Objectives

Since its inception, the team's focus has been directed toward international Fortune 1000 companies who are major customers of both organizations where a strong relationship already exists. Enterprise Solutions offers enterprise applications software implementation expertise that can complement an A.T. Kearney business strategy, planning, operations improvement engagement or an EDS technology/process management arrangement with its customers.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

November 1996

A.T. Kearney, Inc.

Chairman: Gary Fernandes
CEO: Fred Steingraber
222 West Adams Street
Chicago, IL 60606
Phone: (312) 648-0111
Fax: (312) 223-6200
Internet: http://www.atkearney.com

AT KEARNEY

Status:	Subsidiary
Parent:	EDS
Employees:	3,600 (10/96)
Revenue:	$650,000,000
Fiscal Year End:	12/31/95

Key Points

- A.T. Kearney, Inc. is a global, multi-disciplined, general management consulting and executive search firm.
- In July 1996, A.T. Kearney and EDS announced the joint formation of the Business Enterprise Solutions Team (BEST), a new team of several hundred enterprise applications specialists dedicated to assisting clients in the adoption and strategic use of transformational information technologies, including integrated enterprise-wide application packages, data warehousing, and decision support systems.
- In June 1996, A.T. Kearney acquired the consulting staff of Cannon Associates, a management consulting firm based in Moscow (Russia) and Washington D.C.
- In September 1995, EDS completed the acquisition of A.T. Kearney.
  - Subsequent to the closure of the acquisition, the Management Consulting Services (MCS) division of EDS was absorbed into A.T. Kearney.

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- This merger increases A.T. Kearney's industry capability and practice resources, as well as strengthening the firm's information technology expertise.

Company Description

Founded in 1926, A.T. Kearney is celebrating its seventieth year in operation. The firm is one of the leading global management consulting firms, providing business and market strategy, benchmarking and best practices analysis, business process reengineering, manufacturing and operations improvement, organizational effectiveness, global sourcing and logistics, and supply chain management.

In September 1995, A.T. Kearney became an independent wholly owned subsidiary of EDS, a leading technology services provider.

- According to the terms of the agreement, EDS paid approximately $113 million in cash and $162 million in short- and long-term notes to A.T. Kearney shareholders. In addition, the terms included restricted stock grants of approximately 6.6 million shares of Class E Common Stock that will vest over a ten-year period for certain A.T. Kearney personnel.

- A.T. Kearney maintains its own board of management and board of directors.

- Subsequent to the closure of the acquisition, the Management Consulting Services (MCS) division of EDS was absorbed into A.T. Kearney.

- This merger doubled the size of A.T. Kearney and increased its offerings to the automotive, communications, financial services, aerospace, utilities, health care, and electronics industries. It also provided A.T. Kearney with an extended presence in Argentina, Venezuela, New Zealand, and the Philippines.

- EDS offers management and operation of computers, networks, information systems, information processing facilities, business operations, and related personnel.

- EDS, headquartered in Plano (TX), serves customers in 42 countries and has more than 95,000 employees. EDS reported revenue of $12.4 billion for the year ending December 31, 1995.

Organization and Structure

Headquartered in Chicago (IL), A.T. Kearney has offices in 60 cities within 30 countries throughout the Americas, Europe, and the Asia/Pacific region.

Within North America, offices are located in Alexandria and Rosslyn (VA), Atlanta (GA), Boston and Cambridge (MA), Cleveland (OH), Coraopolis (PA), Costa Mesa, Los Angeles, San Diego, San Francisco, Santa Clara, and Redwood City (CA), Dallas, Houston, and Plano (TX), Denver and Englewood, (CO), Southfield (MI), Mexico City (Mexico), Miami (FL), Minneapolis (MN), New York (NY), Phoenix (AZ), Ottawa and Toronto (Canada), St. Louis (MO), and Stamford (CT).

South American locations are in Buenos Aires, Caracas, and Sao Paulo.

European offices are located in Amsterdam (the Netherlands), Milan (Italy), Berlin, Dusseldorf, Munich, and Stuttgart (Germany), Brussels (Belgium), Copenhagen (Denmark), Helsinki (Finland), Lisbon (Portugal), London (U.K.), Barcelona and Madrid (Spain), Moscow (Russia), Oslo (Norway), Paris (France), Stockholm (Sweden), and Warsaw (Poland).

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Offices in the Asia/Pacific region are located in Beijing (Republic of China), Hong Kong, Kuala Lumpur (Malaysia), Melbourne and Sydney (Australia), Seoul (Korea), Singapore, Tokyo (Japan), and Wellington (New Zealand).

In addition, the firm has affiliates in India, the Middle East, and Central America.

A.T. Kearney is organized by industry practices as follows:

- Aerospace and Defense Industry Practice
- Global Automotive Practice
- Telecommunications Practice
- Consumer Products Practice
- Financial Institutions Group (FIG)
- Chemicals/Pharmaceuticals/Health Care Practice
- Oil and Gas Industry Practice
- Global Transportation Industry Practice
- Utilities Industry Practice
- Strategic Information Technology Practice
- Strategic Sourcing Practice

The A.T. Kearney Executive Search division, founded in 1946, seeks and places senior executives with clients to serve as Directors of Boards, CEOs, CFOs, COOs, CIOs, Presidents, Vice Presidents, or Directors, or in other senior leadership roles.

Company Strategy

The firm's strategy in the recent merging of resources of EDS and A.T. Kearney was to allow the firm to provide clients with a full continuum of services—from strategic consulting to operational strategy to implementation, strengthened by information technology services.

The firm has three main goals:

- Growth—To provide scale and scope of resources
- Globalization—Creating a global set of standards for uniformly superior service worldwide
- Leadership—Representing the firm's focus on adding substantial value for its clients by delivering tangible results

A.T. Kearney's mission is to help its clients gain and sustain a competitive advantage. To achieve this mission, the firm's core strategy focuses on three factors:

- Superior people—The firm strives to recruit and develop personnel with outstanding industry experience and educational credentials, creativity, and leadership, problem-solving, teamwork, and communication skills.
- Superior products—Products and methodologies are designed to help clients focus on the most effective consulting options. Through the centers of excellence, the firm invests five to ten percent of revenue in education and training for its personnel worldwide.
- Superior performance—The firm is committed to providing a high return on its clients' investments and improvement in its clients' competitive positions.

A.T. Kearney is committed to high quality and continuous improvement in the service provided. In each engagement, an A.T. Kearney vice president is actively involved. The firm's structured and quality improvement program is directed by an independent senior officer and includes internal peer reviews and independent client quality reviews at several stages. Client

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quality ratings are a key component in consultants' annual performance appraisal.

Financials

A.T. Kearney's 1995 revenue grew to more than $650 million, compared to revenue of $346.3 million in 1994, prior to the merger.

The firm expects revenue to reach approximately $850 million in 1996.

Revenue Analysis by Product/Service

In 1996, A.T. Kearney's year-to-date revenue has been derived from the firm's five key service areas approximately as follows:

Corporate strategy	35%
Organizational design	20%
Operations management	20%
IT strategy	15%
Marketing and sales	10%
	100%

Market Financials

A.T. Kearney operates in nearly every major growth industry, including all segments of the aerospace, automotive, communications, consumer goods, energy, financial services, government, health care, insurance, manufacturing, pharmaceuticals, retail, and transportation industries.

Geographic Markets

In 1995, $370 million (approximately 57%) of the firm's revenue was derived from the U.S., and more than $280 million (approximately 43%) was derived from international sources.

In 1996, A.T. Kearney's year-to-date revenue has been segmented approximately as follows:

The Americas	50%
Europe	35%
Asia Pacific	15%
	100%

Acquisitions

In June 1996, A.T. Kearney acquired the consulting staff of the Moscow (Russia) and Washington D.C.-based management consulting firm, Cannon Associates. The terms of the agreement were not disclosed.

- This acquisition is intended to increase A.T. Kearney's presence in emerging markets, especially in Russia and the Commonwealth of Independent States.
- Cannon will serve as, and be head of, A.T. Kearney's newly formed market development and client service group related to work in emerging countries.
- Cannon now has a permanent Moscow staff of 45.

Employees

As of October 1996, A.T. Kearney had 3,600 employees worldwide, 2,500 of which were consultants.

Key Products and Services

A.T. Kearney provides services in the following industry and functional practice areas:

Global Automotive Practice—This group provides strategy and operational consulting, systems integration, and other management consulting services for leading automotive OEMs, suppliers, and vehicle and parts distributors.

- Among the automotive practice's areas of expertise are:
  - Strategic sourcing and supply chain integration
  - Benchmarking and best practices analysis
  - Marketing, sales, and distribution strategy

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- Systems integration, including implementation of integrated application systems such as SAP's R/3 or Baan Company's TRITON packages
- Process management and organizational effectiveness
- Business transformation/business process reengineering
- Information technology implementation

- Based in Detroit (MI), the automotive group has offices in 20 cities on four continents, and employs more than 300 dedicated automotive industry consultants.
- This is A.T. Kearney's largest industry practice.

Telecommunications Practice—Management consultants assist clients in decision making and implementation of solutions regarding issues caused by the convergence of the information, communications, and entertainment industries.

- This group provides services in the following areas:
  - Electronics
  - Telecommunications
  - Wireless
  - Publishing
  - On-line transaction services
  - Entertainment
- Capabilities include:
  - Business strategy and planning
  - Market research and competitive assessment
  - New product development
  - Revenue enhancement
  - Regulatory and legislative strategies
  - Financial modeling
  - Economic policy and planning
  - Mergers, acquisitions, and partnerships
- Consultants have communications and electronics expertise in North America, Europe, and the Asia/Pacific regions, serving clients in all major industries.

Consumer Products Practice—This group provides consulting to help senior management in the consumer products industry with complex strategic, operational, and organizational issues.

- Areas of expertise include:
  - Development of strategies to respond to market discontinuities
  - Fundamental restructuring of the cost base
  - Managing major organizational change
  - Design of store-level micro-marketing and category management strategies
  - Customer satisfaction evaluation
  - Retail front-end technology assessment
  - Store order-process redesign for improved inventory control
- The consumer products group has provided consulting services to companies at all points along the value chain—manufacturers, retailers, and consumers.
- General merchandise experience in the consumer products industry includes grocery products, consumer electronics, major and small appliances, health and beauty aids, apparel, home and garden equipment, sporting goods, photographic equipment, books, toys and games, and footwear.

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- Experience with leading retail technology issues includes:
  - Point-of-sale systems
  - Payment systems
  - Warehouse and inventory control systems
  - Voice, data, and video-linked systems
  - Decision support software
- The consumer products group accounts for more than 20% of A.T. Kearney's total worldwide billings.

Financial Institutions Group (FIG)—This group provides a full range of management consulting services to leading financial organizations. The group's areas of expertise include:

- Electronic banking/alternative delivery channels
- Techno-market driven strategies
- Revenue generation
- Merger and acquisition strategy
- Postmerger integration
- Alliance setting
- Organizational effectiveness
- Cost reduction/operational improvement

Chemicals/Pharmaceuticals/Health Care Practice—This group provides consulting services to major global pharmaceutical companies, as well as energy and refined products companies with chemical subsidiaries and industry groups.

- The group services all sectors of the chemical and process industry, including:
  - Basic/commodity petrochemicals
  - Polymers
  - Plastic/advanced materials
  - Specialty chemicals
  - Fine chemicals
  - Pharmaceuticals
  - Inorganics
  - Agricultural chemicals
- Consultants possess both general business capabilities and more specific capabilities tailored to address the industry's technology issues and specific concerns.
- This group has completed more than 500 engagements in the chemical industry worldwide in the past five years.

Oil and Gas Industry Practice—The oil and gas practice provides services to all major segments of the oil and gas industry.

- Clients include fully integrated major oil and gas companies, independent companies, as well as oil field service and equipment, pipeline, and refining and marketing companies.
- Segments of the industry value chain for which the oil and gas group has worked include:
  - Exploration and development
  - Field operations and maintenance
  - Administrative services
  - Sourcing and procurement
  - Logistics and transportation
  - Refining
  - Retail marketing
  - Pipeline
  - Oil field services and equipment

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- Functional expertise and capabilities include:
  - Strategic sourcing
  - Maintenance and operations effectiveness
  - Logistics and supply chain management
  - Technology management
  - Transportation
  - Business process reengineering/change management
  - Organizational effectiveness
  - Business and marketing strategy
  - Environment, health, and safety
- This group has completed more than 200 engagements in the oil and gas industry worldwide in the past five years.

Global Transportation Industry Practice—Consultants work with transportation and logistics services companies in every mode, market segment, and geographic area, including rail/intermodal, motor carrier, aviation, contract logistics, equipment manufacturing, and maritime.

- This group focuses on corporate strategy and also assists clients on operations, marketing, and organizational issues.
- Services experience includes the following:
  - Market entry and strategy
  - Operations improvement
  - Customer service strategy
  - Pricing
  - Cost reduction
  - Merger/acquisition strategy
  - Value-added logistics services
  - Competitive analysis
  - Information technology
  - New product development
  - Restructuring and privatization
  - Strategic sourcing

Utilities Industry Practice—Consultants provide a range of management consulting services from strategic insights to organization and operations, culminating in implementation with information technology experience.

Proprietary methodologies employed include:

- Strategic sourcing
- Supply chain integration
- Business process reengineering

Strategic Information Technology Practice—This group's principal function is the smooth integration of IT-based business transformation, from business strategy through business operations improvement, strategic IT sourcing, implementation, diagnostics, deployment, and the continuous improvement process.

This group has developed a technology consulting approach that includes:

- Core strength in all areas of technology consulting, implementation, and management, including:
  - Strategic consulting
  - Operations and organizational design
  - Technology blueprinting
  - Deployment
  - Technology enablement
  - Testing
  - Ongoing process/technology management

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- Emphasis on rapid delivery to realize the business value of new systems quickly
- Expertise in solutions available from a wide variety of potential vendors, including SAP AG, Manugistics Corp., Marcam, Oracle, and Baan Company
- Expertise in providing a full scope of enterprise-wide technology solutions, including:
  - Executive information systems
  - Decision support systems
  - Data warehousing
- A mix of industry, operations, and IT implementation experts on each engagement

In July 1996, A.T. Kearney and EDS jointly created the Business Enterprise Solutions Team (BEST), a special team of 200 systems engineering experts in North America, Europe, and Asia with expertise in the implementation of client/server technologies from SAP AG, Oracle Systems Corp., Baan Company and other enterprise computing vendors.

Strategic Sourcing Practice—Consultants apply the strategic sourcing methodology pioneered by A.T. Kearney to improve the performance of organizations by examining the processes related to their external purchases and determining what should be sourced and how to source it.

- Strategic sourcing brings the software and supplier databases to the client to improve global sourcing activities.
- Consultants help clients to evaluate alternative strategies such as offshore sourcing and manufacturing, and make or buy options, then helps them to optimize vertical integration.

Clients

A.T. Kearney's clients range from international conglomerates to domestic companies in a variety of businesses—manufacturing, service, nonprofit organizations, and government.

The firm's corporate clients are typically companies with $500 million or more in annual revenue. The firm has worked for more than 70% of the Fortune 1000 companies and their equivalents outside the U.S.

A sampling of A.T. Kearney clients includes Sears, Eli Lily, General Motors, Chase Manhattan Bank, Rolls Royce, Bank of America, Philip Morris, Brystol Meyer Squibb, Westpac, the City of Wellington, and Slovenia.

Marketing and Sales

A.T. Kearney's Marketing and Communications Department supports global advertising, public relations, sales and marketing, and collateral development on a corporate and global basis.

This group is supported by field marketing managers who work to support each industry and functional services practice area. This group of marketing managers has a dotted-line relationship with the Marketing and Communications Department.

Competition

A.T. Kearney considers the following companies its key competitors: McKinsey & Company; Booz, Allen and Hamilton; The Boston Consulting Group; Bain & Company; and Andersen Consulting.

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Assessment

A.T. Kearney considers its key strengths to include:

- Tangible results derived from the client's business in three areas: economics, relationship development, and market development
- Business and operational strategy consulting
- IT strategy consulting

Some of the key challenges faced by the firm include the following:

- Leveraging A.T. Kearney's relationship with EDS without losing its brand identity or perception of objectivity
- Retaining and recruiting consultants of the highest quality

Parent Company

EDS
5400 Legacy Drive
Plano, TX 75024
Phone: (214) 605-6000
Revenue: $12,422,100,000 (12/31/95)

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program

June 1997

Atos Group

Immeuble Ile-de-France
3, Place de la Pyramide
92067 Paris La Defense Cedex
France
Phone: +33 1 49 00 90 00
Fax: +33 1 47 73 07 63
Internet: http://www.atos-group.com

Chief Executive Officer:	Bernard Bourigeaud
Status:	Public
Employees:	8,500
Revenue (for 1996):	FF 6,200,000,000
Fiscal Year End:	9/30/96

Key Points

- Atos is a leading France-based provider of IT services in France and internationally. Approximately a third of the company's revenue is generated outside France, with Germany as the biggest market.
- Atos is the new name of the company created from the merger of Axime, Sligos, and the outsourcing business of ADP-GSI. The legal merger takes place on 1 July 1997.
- Atos has a strong heritage in the banking, finance, and insurance sectors through Axime and Sligos. The ADP-GSI acquisition provides Atos with a foothold in other industry sectors.
- The company is seeking to expand its international business, with initial priority given to Germany, the U.K., and Spain.

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Company Description

Axime and Sligos announced their intention to merge in October 1996. This action united the second and third largest IT services companies based in France.

- Sligos was created in 1974 through the merger of Sliga, a subsidiary of Credit Lyonnais, and Cegos Informatique. The company had revenue in 1996 of FF 4 billion.

- Axime Group was founded in 1990 as a result of the merger between the French companies FITB, Séguin, and Sodinforg. In fiscal 1996, the company had revenue of FF 2.1 billion.

In December 1996, Axime also bought ADP-GSI's outsourcing business, which now forms an important part of Atos.

A major part of Axime's service portfolio was processing services, such as payment systems, telematics, and securities processing.

The Sligos organization brings a heritage in computerized funds transfer, smart cards, and other bank and finance transactions to Atos Group.

The outsourcing business from ADP-GSI provides Atos with capabilities in the manufacturing, transport, and distribution sectors, and expands the company's business in the U.K.

Operations and Structure

Atos' main shareholder is Compagnie Financiere de Paribas, which owns a 13.2% interest. The rest of the shares are held by large institutional investors and the public. Atos is listed on the monthly settlement market of the Paris Bourse.

Atos has 8,500 employees and is now the fifth-largest European-based IT services company. The company has operations in France, Germany, Italy, Spain, Switzerland, Benelux, Portugal, and the U.K.

Exhibit 1 shows the senior management of Atos Group.

Exhibit 1

Atos Group
Key Executives

Name	Position
Henri Pascaud	Chairman of the Supervisory Board
Bernard Bourigeaud	Chairman of the Executive Board & CEO
Dominique Illien	Vice Chairman of the Executive Board & COO
Alain Bridenne	Exec. VP, Professional Services & Systems Integration
Francis Delacourt	Exec. VP, Outsourcing
Guy Fourneau	Exec. VP, Services
Eric Guilhou	VP, CFO
Jean-Luc Lenart	VP, Strategy & Development
Jean-Marie Vezin	VP, Human Resources

Source: Atos

Atos is divided into four operating divisions:

- Professional Services & Systems Integration, which is the largest division with 3,600 employees

- Services, with offerings in areas such as processing services and call centers. This division has 3,250 employees.

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- Outsourcing, which covers all outsourcing and facilities management services, with 1,300 employees
- Multimedia, which offers services such as Internet and intranet technologies, on-line services, electronic commerce, and value-added network services

Company Strategy

Atos generates almost half its revenue in the banking and finance sector. However, the company is also targeting other industry sectors where the deployment of IT is important for providing better customer service and gaining competitive advantage. Atos' focus markets are:

- Banking, finance, and insurance
- Telecommunications and media
- Utilities
- Retail
- Automotive
- Transportation
- Healthcare

Currently, the company generates 27% of its revenue outside France. Atos is committed to continuing its international expansion, especially in Europe. The company intends to fulfill this by:

- Supporting its large European customers in their international expansion
- Strengthening its position where it already has operations, particularly in Germany and the U.K.
- Expanding in the U.S. through partnerships that will introduce Atos' products and services in this market

Acquisitions/Divestitures

Acquisitions

The major recent activity in this area is the merger of Sligos and Axime. Under the terms of the merger, Axime offered a share exchange of six Axime shares for five Sligos shares. The share exchange was launched in December 1996 and had a value of around $670 million. As mentioned earlier, the legal merger will take effect on 1 July.

In December 1996, Axime acquired the outsourcing arm of ADP-GSI for approximately $38 million. This acquisition expanded Axime's outsourcing operations, principally in France and the U.K. The focus markets of this operation are transport, distribution, and manufacturing, with annual revenue of around $120 million. The outsourcing business, which was originally part of GSI, was considered non-core since ADP acquired GSI in 1995, explaining the low acquisition price.

Other recent acquisitions include:

- January 1997-Intelco and Q-Bos
- November 1996-Penny Dialogmarketing
- October 1996-Phonepermanence

Divestitures

In December 1996, Axime sold its subsidiary Axime Ingenierie SA with 1,000 employees and revenue of around $65 million to Logica Plc for £18.4 million.

In November 1996, Sligos disposed of its Solaic subsidiary, a smart card manufacturer, which was considered non-core to the strategic direction of Atos.

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Financial Information

Atos Group's fiscal year end is 30 September. Since Axime's financial year was to 30 June and Sligos followed the calendar year, this makes financial analysis of the new company difficult at this stage.

Atos has reported that for the first six months of its FY97, ending 31 March 1997, the company had revenue of FF 3,168 million, excluding sales from discontinued operations and including acquisitions. This represented an increase of 20.9% over the revenue calculated for the same period a year earlier. Of the revenue growth, 6.8% came from organic growth in Sligos and Axime, while 14.1% was from acquisitions.

In the second quarter of the period, revenue grew by 20.2% over 2Q96, of which 5.9% was from organic growth. Acquisitions accounted for 14.3% of the increase, mostly accounted for by the acquisition of ADP-GSI's outsourcing business.

Exhibit 2 shows Axime's revenue for the past five financial years. In FY96, Axime reported a net profit of 135 million francs.

Exhibit 3 provides an overview of Sligos' revenue from 1992 to 1996. For 1996, Sligos reported a net result before goodwill and merger costs of 242 million francs.

Atos forecasts revenue for FY97 of FF 6.3 billion, which is almost flat over a calculated 1996 revenue figure that includes the ADP-GSI outsourcing business.

Exhibit 2

Axime
Five-Year Revenue Summary (FYE 30 June)

Year	FY92	FY93	FY94	FY95	FY96
Revenue (FF Billion)	2.2	1.9	1.8	2.1	2.1
Revenue ($ Million)	423	365	346	404	410
Percent change from previous year	0%	14%	0%	11%	2%
Revenue per employee (FF Million)	N/A	0.758	0.712	0.791	N/A
Revenue per employee ($ Million)	N/A	0.146	0.137	0.152	N/A

a) Exchange rate used is 5.2 FF to 1 U.S.$

Source: INPUT

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Exhibit 3

Sligos
Five-Year Revenue Summary (FYE 31 December)

Year	FY92	FY93	FY94	FY95	FY96
Revenue (FF Billion)	3.64	3.81	4.1	4.3	4.0
Revenue ($ Million)	700	733	788	827	769
Percent change from previous year	11%	13%	8%	5%	-8%
Revenue per employee (FF Million)	0.637	0.612	0.656	0.680	N/A
Revenue per employee ($ Million)	0.123	0.118	0.126	0.131	N/A

a) Exchange rate used is 5.2 FF to 1 U.S.$

Source: INPUT

Exhibit 4 shows projected revenue by operating division, as provided by Atos.

Exhibit 4

Atos Group
FY97 Revenue by Operating Division
(FF Billions)

Division	Revenue	Percent of Total
Professional Services and Systems Integration	2.3	36%
Services	2.2	36%
Outsourcing	1.2	20%
Multimedia	0.53	8%
Total forecasted revenue	6.3	100%

Source: Atos

Market Analysis

Exhibit 5 shows INPUT's estimate for Atos' calculated 1996 revenue by service mode. The estimates includes the effects of recent acquisitions/divestitures.

Exhibit 5

Atos Group
Revenue by Service Mode,
1996 ($ Millions)

Service Mode	Revenue	Percent of Total
Processing Services	310	25%
Outsourcing	230	19%
Systems Integration	200	17%
Professional Services	180	15%
Network Services	155	13%
Customer Services	60	5%
Other	60	5%
Total Software and Services	1,200	100%

a) Exchange rate: FF 5.2 to 1U.S.$

Source: INPUT estimates
Numbers are rounded

Exhibit 6 shows the forecasted division of revenue by industry sector, as provided by Atos.

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Exhibit 6

Atos Group
FY97 Revenue by Industry Sector
($ Millions)

Industry Sector	Revenue	Percent of Total
Banking, Finance & Insurance	600	48%
Manufacturing	188	15%
Telecommunications & Media	162	13%
Government Services and Utilities	137	11%
Automotive Transport	88	7%
Retail Distribution	75	6%
Total Software and Services	1,250	100%

a) Exchange rate: FF 5.2 to 1U.S.$
Source: Atos and INPUT Estimates

Geographic Markets

Strategic directions for Atos include expanding its business outside its domestic market. Exhibit 7 shows Atos' revenue by country for FY97.

Exhibit 7

Atos Group
Revenue by Region
FY97 ($ Millions)

Region	Revenue	Percent of Total
France	912	73%
Germany	213	17%
Rest of Europe	125	10%
Total	1,250	100%

Source: Atos

Key Products and Services

Atos offers a wide range of information services with particular focus on the banking and finance sector. The following provides an overview of the company's main services by operating division.

Services

Atos' activities in this division fall into the following main areas:

- Call centers-Atos has more than 1,000 full-time operators handling more than 15 million calls a year.
- Direct marketing, including logistical services and database management
- Transaction processing services, which include on-line collection of card and check transactions, management of ATMs, and enabling secure access to electronic distribution channels such as EDI and the Internet. The company manages almost 1.5 billion transactions a year.
- Check and other document processing services, including interbank payment tickets. Atos also offers high-security document printing and the management of contracts, subscriptions, invoicing, and payments. The company processes more than a billion documents a year.

Atos' services customers include American Express, Berliner Bank, Esso, Societe Generale, Telefonica, and Volkswagen.

Outsourcing

Atos' outsourcing services cover:

- Integrated outsourcing, through which Atos offers to manage the operation of all or part of the customer's IT installation. Services cover both mainframe and distributed systems, including

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consulting, applications management, and operations management. The company will include standards for performance, quality, upgradeability, and reversibility in its contracts.

- Specialized outsourcing, such as managing processes for securities trading for banks and stock brokers. Specialized outsourcing involves operations, applications, and distributed systems management.

Under its applications management services, Atos will design and install new systems as well as making existing applications compliant to Year 2000 and the single European currency.

The acquisition of ADP-GSI's outsourcing business approximately doubled the combined Axime/Sligos activities in this area. The company is now among the largest outsourcing companies in France.

Customers of Atos' outsourcing services include BNP, Credit Lyonnais, Milk Marque, Potain, and Societe de Bourses Francaises.

Professional Services & Systems Integration

Atos offers a full range of services for designing, developing, installing, and maintaining information systems, such as:

- Systems integration projects
- Networks
- Consulting, technical support, and training
- Multiyear services, such as applications maintenance and network support provided under three- to five-year contracts with guaranteed performance standards, and often provided as a natural extension to systems integration contracts

Atos' systems integration expertise includes the following areas:

- Securities trading rooms
- Electronic fund transfer systems
- Banking software
- Network communications management between software packages
- Integration of intelligent networks for telecom operators

Atos' technology portfolio includes Teknekron, the world's most frequently used trading room software, and the installation of integrated management systems, such as SAP and MFG/PRO.

The company also has experience in developing customized payment systems and point-of-sale systems.

Among the major customers of this part of Atos' business are the European Commission, Deutsche Bank, Fiat, France Telecom, Global One, and Swiss Telecom.

Multimedia

Atos has a large multimedia information retrieval center from which it offers a number of services. These include:

- On-line services
- Electronic commerce
- Specialized on-line services
- Internet/intranet services
- Value-added network services

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Through this division, Atos offers expertise in creation and management of on-line services, integrating the full range of videotex, audiotex, fax, and Internet technologies, as well as Internet access provider (IAP) services.

As part of its international operations, Axime has developed audiotex services in Belgium, the Netherlands, Germany, and Italy.

Major customers for the Multimedia business are France Television, the French Post Office, Peugeot, Prisma Presse, and Wolters Kluwer.

Alliances

In December 1996, Axime and Microsoft entered into an agreement under which Atos will use Microsoft's Merchant Server and its Internet Security Framework for its electronic commerce service.

Atos also has a joint venture with Stratus Computer in Germany, formed in January 1996. The two partners hold equal shares in Astria, the joint subsidiary. Astria specializes in integrating automated payment systems.

Atos further has various partnership and alliance agreements with:

- Bull
- Digital
- Hewlett-Packard
- IBM
- qad
- SAP
- Tandem
- Tibco

Clients

Exhibit 8, on the following page, provides a list of some of Atos' major clients.

INPUT Assessment

According to Atos' management, one of the major reasons for the merger of Axime and Sligos was a shared strategic vision of the developments in the IT market and roles that the companies were aiming to play in that marketplace.

The companies had further assessed that there was a close strategic fit between the businesses in terms of:

- Skills, expertise, and capabilities
- Geographic coverage
- Business segments
- Clients

INPUT believes that the merger of the two companies has so far been a strong move.

Axime's key business areas were in processing services and custom software development and the company needed to strengthen its offerings in other stronger growing parts of the IT services market. Sligos' principal strength was in payment systems and the surrounding technologies; it also needed to expand its business foundation.

Through the merger, both companies have alleviated some of their weaknesses and further supported their new company by acquiring a sizable outsourcing business.

Further, the companies' operations outside France matched each other well and their management shared visions of expansion in Europe.

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Exhibit 8

Atos Group
Reference Customers

Industry Sector	Customer
Banking, Finance and Insurance	American Express Bank of France Berliner Bank BNP Citibank Compagnie Bancaire Credit Agricole Deutsche Bank Paribas Societe Generale Societes des Bourses Francaises Zurich Assurances
Transport, Travel & Tourism	Air France Air Inter Disneyland Paris Eurotunnel
Retail & Distribution	Auchan Conforama Damart
Oil & Petroleum	Elf Aquitaine Esso
Telecommunications and Media	Bayard Presse Bonnier Group France Telecom Global One Les Echos Prisma Presse Swiss Telecom Telefonica
Manufacturing	Motorola Peugeot Renault Volkswagen
Aerospace	Aerospatiale
Business Services	Blenheim Group Total
Government and Public Services	French Ministry of Education La Poste European Commission

Source: INPUT

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History shows that despite being a strong match on paper, the work of merging two companies can in reality be a long, difficult process due to issues such as culture differences. Atos seem to be going smoothly through this process owing to strong and unified management.

However, Atos still lacks strong management consultancy capabilities in its new shape. To truly take on the competition with the major players in the IT services market, the company should look to strengthen this part of its business, either through future acquisitions or alliances with appropriate consultancy companies.

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program

June 1998

AT&T Solutions – Outsourcing Services

Contact Information for U.S. Outsourcing Services:
Ralph Dobriner
15 Vreeland Road
Florham Park, NJ 07932
Phone: (908) 221 4398
Internet: http://www.att.com/solutions/

The following profile outlines the services and support offered by AT&T Solutions for Outsourcing Services.

General Background Information

AT&T has been in operation for over 125 years. In 1995 AT&T formed AT&T Solutions to provide networking solutions to large enterprise organizations.

Main activities

AT&T Solutions, Inc., established in 1995, provides outsourcing, consulting, networking integration and multimedia call center services to over 225 clients world-wide. AT&T Solutions provides clients with customized information technology solutions to operate and manage voice, data and video services, including local and wide area networks, PBXs, voice-processing systems and voice and data terminals. AT&T Solutions is expected to turn profitable in 1998.

The company designs, builds, and manages networking solutions that combine the power of computing and communications. AT&T Solutions also draws on the resources of AT&T (public, private, and wireless networking, networked computing, premises voice, video, text, and data products) and the technological expertise of AT&T Laboratories to serve its customers. AT&T Solutions targets the Global 2000--the 2,000 largest global organizations.

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In 1997 AT&T solutions had revenues in excess of $5B and a total of 22,000 employees World-wide.

Exhibit 1

AT&T Solutions's Revenues

	1997
World-wide revenues (if relevant)	$6.6 B
of which outsourcing services revenues	$1B
US revenues	$3.75 B
of which outsourcing services revenues	$677M

Source: INPUT

Exhibit 2

Employee numbers

	Total	Outsourcing Personnel
World-wide	53,426	Approx. 12,000
US	28,730	Approx. 5,300

Source: AT&T Solutions

Exhibit 3

Number of Outsourcing Contracts

	Total
World-wide	Approx. 230
US	Approx. 105

Source: AT&T Solutions

Key Vertical Markets

Financial Services
Healthcare
Media, Entertainment and Communications
Supply Chain Management
Utilities & Energy
Transportation

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Current Service Offerings

Exhibit 4

AT&T Solutions Services

WAN Transport (our own facilities)	Yes
WAN Transport (provisioned by us but not our own facilities)	Yes
Network Design	Yes
Network Build – Engineer, Provision Equipment, Install	Yes
Network Operations Management (Fault, Configuration, Performance, Accounting, Security Management)	Yes
HW/SW Maintenance & Repair	Yes
Carrier/Vendor Management	Yes
Remote Network Monitoring • Network Wellness Checks • Failure Analysis • Fault Isolation and Diagnosis	Yes
Help Desk for Network Problems	Yes
Help Desk for Applications Problems	Yes
SNA Migration Services	Yes
Voice/Data/Video Integration	Yes
Asset Management	Yes
Disaster Recovery	Yes
Remote LAN Access	Yes
Internet/Intranet Hosting	Yes
Video Teleconference Management	Yes
Voice Premises Management	Yes
Calling Card Management	Yes
Other	ICB

WAN Transport Services Supported

- Frame Relay
- X.25
- Leased Lines
- IP
- ATM
- Dial up

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Access Technologies Supported

- T-1
- T-45
- ISDN PRI
- ISDN BRI
- Wireless
- Analog Dial-up
- Digital Dial-up
- VSAT

Exhibit 5

AT&T Solutions' Network Operations Management Elements

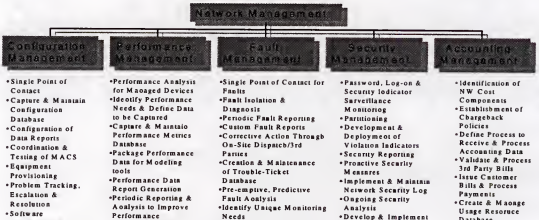

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Exhibit 6

Equipment Supported by AT&T Solutions

Equipment Type	Provision	Remote Monitoring	Which Vendors Products?
Routers	Yes	Yes	All
FRADs	Yes	Yes	All
Frame Relay Switches	Yes	Yes	All
ATM Switches	Yes	Yes	All
Hubs	Yes	Yes	All
Servers	Yes	Yes	All
CSU/DSUs	Yes	Yes	All
TDMs	Yes	Yes	All
Desktop PCs	Yes	Yes	All (on LAN or networked)
LAN Connected	Yes	Yes	All
PBXs	Yes	Yes	All
VRUs	Yes	Yes	All
Call Management	Yes	Yes	All
ACDs	Yes	Yes	All
Modems	Yes	Yes	All
Mobile PCs	Yes	No	All
Pagers	Yes	Yes	All
Muxes	Yes	Yes	All
Voice Mail Systems	Yes	Yes	All

AT&T Solutions' Outsourcing Reference Customers

1-800-FLOWERS
Bear Stearns
Hallmark
Royal Bank of Canada
Chung Hwa Telecommunications
PT Telkom
NorwestBank
Best Buy
United Airlines.

United HealthCare Corp.

One of the nation's largest managed health care providers, United HealthCare, selected AT&T Solutions to build and operate its enterprise-wide networking platform. The multi-year networking services contract is the largest in the health care industry. AT&T Solutions is designing, building and managing an advanced voice and data networking

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platform that will electronically bond more than 30,000 users at service centers, field offices, external vendor sites, and other locations across the country. The rapid deployment involves more than 300 sites nationwide in approximately 12 months. At United HealthCare's member services and claim centers, AT&T Solutions is also deploying advanced call center technologies to support its ongoing focus on efficiency and service.

Textron Inc.

In one of the largest single-source outsourcing agreements to date, Textron Inc. and AT&T Solutions have signed a $1.1 billion, ten-year contract for AT&T to upgrade, expand and manage Textron's global communications infrastructure, which serves the company's 25 divisions worldwide. AT&T Solutions is engineering, designing and implementing a comprehensive networking platform encompassing Textron's voice, data, and video requirements worldwide—including local exchange services, wide area networking, Virtual Telecommunications Network Services (VTNS), electronic mail and Local Area Network (LAN) management.

Merrill Lynch

Under the terms of a five-year contract (with a potential value in excess of $500 million), AT&T Solutions delivers networking-enabled solutions and intelligent networking services to Merrill Lynch and its Trusted Global Advisor (TGA) platform. AT&T Solutions is migrating Merrill Lynch's existing private line data infrastructure to AT&T InterSpan Frame Relay® service, as well as managing inbound and outbound voice services. Lifecycle management services for Merrill Lynch, which include Local Area Network and Wide Area Network systems that support retail branches, are being provided by a client-focused team in the AT&T Solutions Global Client Support Center (GCSC) in Durham, N.C.

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IT 2000

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

July 1995

AT&T Global Information Solutions

Chairman & CEO: Lars Nyberg
1700 South Patterson Boulevard
Dayton, OH 45479
Phone: (513) 445-5000

Status:	Operating Group
Parent:	AT&T
Total Employees:	46,250 (3/95)
Revenue:	$8.46 billion
Fiscal Year End:	12/31/94

Key Points

- The goal of AT&T Global Information Solutions (AT&T GIS) is to provide Customer Focused Solutions that help businesses better understand and serve their customers by more effectively getting, moving and using customer information.
- In May 1995, AT&T named Lars Nyberg as chairman and CEO of AT&T GIS. Mr. Nyberg was formerly chairman and CEO of the Communications Systems division of Philips Electronics NV.
- For 1994, AT&T GIS posted revenues of $8.46 billion, a 16% increase over 1993 revenue of $7.26 billion. Strong gains were posted in Professional Services (up 33%), PC systems (up 100%) and Commercial Massive Parallel Processors (up 50%).
- AT&T GIS generated worldwide services revenue of $2.8 billion in 1994 and forecasts revenues of $3.7 billion by 1997. Professional services and systems integration currently contribute $600 million to this figure.

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- In 1994, AT&T GIS targeted six key industry segments for its products and services—financial services, retail, communications, consumer goods manufacturing, transportation and the public sector.

- During 1994, as part of its strategy to become a leader in the Customer Information Solutions market, AT&T GIS launched sales and marketing solutions for the retail, financial, communications and consumer goods manufacturing industries.

- During 1994, AT&T GIS sold off several nonstrategic businesses, including ADDS Terminals, Microelectronics and the Ithaca Printer Division.

Company Description

AT&T GIS provides a range of computer systems and products; associated maintenance/support; consulting, engineering, integration and implementation professional services to clients worldwide.

AT&T GIS' current operations include a substantially enhanced professional services business, the former operations of NCR Corporation (acquired in 1991), certain computer business of AT&T Computer Systems and the parallel processing systems business of Teradata (acquired in 1992).

The AT&T GIS name was adopted in 1994 to reflect the company's new orientation and global capabilities in computing and communications.

Organization and Structure

AT&T GIS operates as one of five major groups within AT&T. The four other AT&T groups include the following:

- *The Communication Services Group* provides global long distance services for business and residential customers. It installs and manages AT&T global networks and customers' private networks.

- *The Network Systems Group* provides network software, equipment and systems integration for telephone companies, governments, private network operators, cable television operators and wireless service providers. This group also provides photonics components and power supplies for AT&T and other high-technology companies.

- *The Multimedia Products and Services Group* provides products to support the conversions and communications, computing and information and entertainment for consumer's businesses and government entities around the world.

- *AT&T Solutions* was formed in early 1995 as a new business unit in an attempt to harness and leverage all of AT&T's capabilities in information and technology management to provide large corporations with a single source for network-centered solutions.

Customer Focused Business Model

The Customer Focused Team is the building block of AT&T GIS, providing a flattened organization that drives decision-making closer to the customer.

- The Customer Focused Team is a cross-functional unit dedicated in selected industries to understanding customer needs and interests and working to deliver solutions fitting their unique organizational structure.

- Each team is headed by a team leader and includes representatives of services, sales, marketing, products and systems and support organized around six targeted

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vertical industries (retail, financial services, transportation, consumer goods manufacturing, communications and the public sector).

- AT&T GIS emphasizes the inclusion of personnel from service and support functions on an equal footing with traditional hardware sales staff as an indicator of the key role of services in its total offering.

- Some 570 Customer Focused Teams are deployed worldwide. Teams have "full power, permission, and protection to do whatever is necessary to delight customers." To add to the theme of empowerment, senior staff are referred to as "coaches."

AT&T GIS' current organization structure is shown in Exhibit A. The company's primary operating units are as follows:

- *Worldwide Marketing*
- *Worldwide Products and Systems*
- *Field Operations (The Americas)*
- *Field Operations (Europe & Middle East/Africa)*
- *Field Operations (Asia/Pacific)*
- *Worldwide Services*
- *Systemedia*

Worldwide Marketing's role is to establish AT&T GIS' market position, determine key target markets and strategies, determine sales resources and prioritize programs.

Products and Systems' role is to realize and deliver products and programs, technical support for marketing and sales initiatives, worldwide distribution, manage R&D, product and distribution costs relative to full-stream profit statements.

There are four basic product lines of business (workstations, computer systems, financial and retail systems) and two fully integrated lines of business (*Information Products* and *Materials and Logistics Management*).

Field Operations' role is Customer Focused Team development and support, product and solution sales, service and support; execution of global marketing programs; and the development and execution of local marketing programs.

Field Operations is divided into three groups—The Americas, Europe & Middle East/Africa and Asia/Pacific.

Worldwide Services' role is to develop offerings in Professional Services and Customer Support Services. Once a new service is "productised" it is passed over to Field Operations to sell and implement. This unit's organization is shown in Exhibit B.

In this arrangement AT&T GIS is giving services their own "factory" with equal status with those of Products and Systems.

Systemedia focuses on the transaction media business, with core competencies in bar code systems, label and label form solutions, mailer design, thermal printing technology, MICR technology, inking media and electronic forms automation.

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Exhibit A

AT&T Global Information Solutions

Team Roster

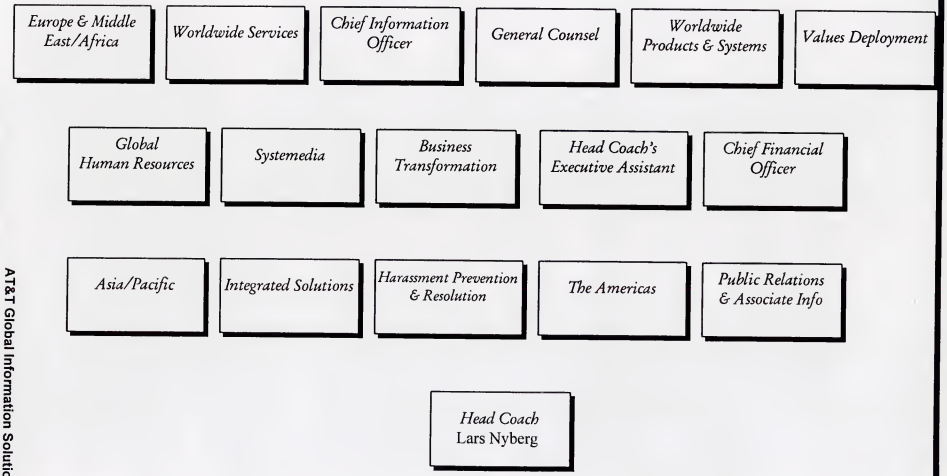

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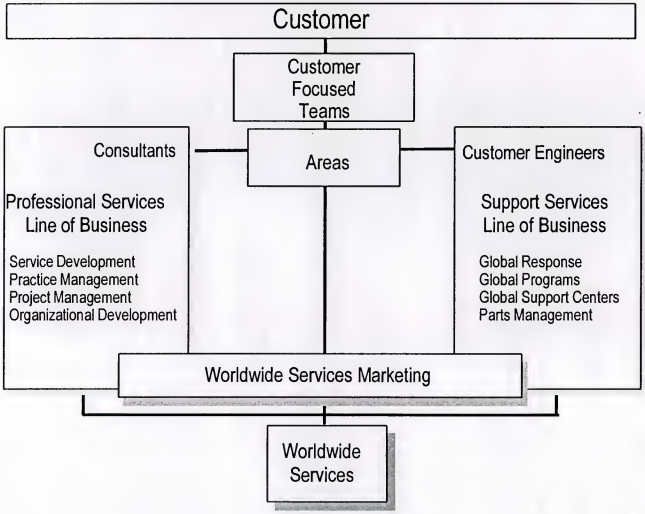
Exhibit B

AT&T GIS Worldwide Services Organization Structure



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AT&T GIS' key executives are shown below:

AT&T GIS Key Executives

Name	Position
Lars Nyberg	Chairman and CEO
William T. O'Shea	Senior VP Worldwide Marketing
Bob Carpenter	SVP Worldwide Services
Mike Ruffolo	VP Worldwide Services Marketing
Tom Mays	SVP Worldwide Products and Systems
Tony Fano	SVP Europe and Middle/East Africa
Hidea Takahashi	VP Asia
John Giering	SVP, Chief Financial Officer

Source: AT&T

Company Strategy

AT&T GIS' mission is to help its customers help their customers to more effectively get, move and use information by combining the expertise of AT&T GIS in the following areas:

- **Get it**—Helping businesses understand the buying patterns, preferences and service requirements of customers and prospects by gathering information at the point-of-contact through devices and systems used in customer transactions, such as point-of-sale terminals, automated teller machines, telephones, smart-card readers, personal computers and handheld devices.

- **Move it**—Transporting that information between locations and individuals via global voice, data and visual communications services and computer networking products.

- **Use it**—Analyzing the information to support decisions on how the organization seeks to serve its customers. This takes place through parallel-processing systems, distributed client/server computers and services such as database design and systems integration.

The mission of AT&T GIS Worldwide Services is to "improve customers' business performance through identifying, enhancing and leveraging people, processes, information and technology." Key global services strategies include:

- Delivering a full range of services that focus on providing robust solutions within AT&T GIS' six targeted industries

- Leveraging alliance partners to complement AT&T GIS' core service competencies

- Continuing to make major investments in the services business and delivery infrastructures

- Leveraging cross AT&T service capabilities to deliver integrated customer solutions.

AT&T GIS' Professional Services revenue is currently at approximately $600 million worldwide, with the goal of reached $1 billion by 1997. Professional Services' guiding principals for AT&T GIS include:

- Building strategic relations with customers by providing thought leadership for business and technology solutions

- Contributing essential knowledge and skills to success of Customer-Focused Teams

- Nurturing values-based partnerships that extend AT&T GIS' capabilities to benefit its customers

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- Contributing growth and profits to AT&T GIS

Four roles that build on the strengths within Professional Services include:

- Account Consultants are integral members of Customer-Focused Teams who identify technology, consulting and program management resources required to provide comprehensive services and solutions.

- Consulting services, which include broader capabilities in business process consulting and systems planning and design that round out the front-end of the company's service offerings.

- Technology services, which include product-specific implementation services

- Program/project management, which provides the "glue" for managing and assuring service delivery for large systems integration opportunities on time.

AT&T GIS actively supports AT&T's five key technological initiatives—Visual Communications, Wireless Communications, Networked Computing, Voice and Audio Processing and Messaging.

AT&T GIS also supports AT&T Solutions, an organization established by AT&T during 1994 to complement the efforts of AT&T's existing business units and to create new integration capabilities.

Financials

AT&T GIS' 1994 revenue reached $8.46 billion, a 16% increase over 1993 revenue of $7.26 billion.

- Gross margins remained under pressure because of competitive price pressures on all products, the erosion of high-margin maintenance services, and a less favorable product mix (a higher portion of lower margin PC sales)

- Excluding restructuring charges of $219 million for 1993, operating income improved slightly during 1994 to just above break-even.

- A five-year financial summary is shown on the following page.

AT&T GIS management attributed 1994 results to the following:

- The Professional Services business generated close to $600 million in worldwide revenue, a 33% increase over 1993 levels. The growth was the result of implementing the key services strategies previously discussed.

- The Scalable Server business capitalized on strong growth in the UNIX and NT Server marketplace. The Open Systems Server business (3400/3500/3600 systems) collectively grew 29%.

- PC system sales doubled during 1994, approaching the $2 billion mark.

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AT&T Global Information Solutions
Five-Year Financial Summary
($ Millions)

Item	Fiscal Year 1994	1993	1992	1991	1990
Revenue	$8,459	$7,262	$7,135	$6,300	$6,285
• Percent change from previous year	16%	2%	13%	--	6%
Operating income (loss)	$2.0	$(218.2) (a)	$288.8	$230.0	$653.0
• Percent change from previous year	--	(176%)	26%	(65%)	(6%)

(a) Includes restructuring charges of $219 million.

- In the Commercial MPP systems market, revenues increased by 50% to $450 million. Sales were strong in the Pacific Rim, particularly in Japan where 104 systems were sold. AT&T GIS also received significant Commercial MPP orders from Reuters PLC (U.K.), Casino (France), Sony (Japan), Tokyo Bank, Kirin Systems (Korea), Quantis (Australia), American Airlines, BellSouth, the IRS and Kohls Department.

- The ATM and Self Service terminal business experienced an 11% increase in revenue to $863 million. GIS claims a leadership position of approximately 40% of worldwide ATM shipments, exporting to 102 countries.

Research and development expenditures for AT&T GIS were approximately $500 million (5.9% of revenue) in 1994, $568 million (7.8% of revenue) in 1993 and $283 million (4.0% of revenue) in 1992.

Revenue by Product/Service

A three-year summary of source of worldwide revenue, as provided by AT&T GIS, is shown on the following page.

AT&T GIS' $2.8 billion in worldwide services revenue for 1994 was segmented approximately as follows:

Support services	69%
Professional services/ systems integration	21%
Implementation services	8%
IT management	2%
	100%

INPUT estimates AT&T GIS had approximately $520 million in U.S. information services revenue for 1994, segmented as follows ($ Millions):

Professional services	$150
Systems integration	170
Software products	200
	$520

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AT&T Global Information Solutions
Three-Year Source of Revenue Summary
($ Millions)

	Fiscal Year					
	1994		1993		1992	
Product/Service	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Computer products and systems	$4,188	50%	$3,447	48%	$3,317	47%
Computer services and rentals	2,818	33%	2,644	36%	2,661	37%
Microelectronics and Systemedia	932	11%	787	11%	745	10%
Sales to AT&T affiliates	521	6%	384	5%	412	6%
Total	$8,459	100%	$7,262	100%	$7,135	100%

Market Financials

AT&T GIS' $2.8 billion in worldwide services revenue for 1994 was derived approximately as follows:

Financial services	39%
Retail	20%
Public sector	9%
Telecommunications	8%
Manufacturing	5%
Transportation	3%
Other	16%
	100%

AT&T GIS has targeted six key industries:

- In the retail market, target opportunities include retail store automation, high-performance merchandising and remote store management.
- In the financial services market, target opportunities include financial delivery systems, financial services (business critical computing), relationship management and Japan retail delivery.
- In the communications market, target opportunities include customer information management and customer engagements.
- In the consumer goods manufacturing market, target opportunities include agile manufacturing and relationship manufacturing.
- In the transportation market, target opportunities include marketing/distribution systems.
- In the public sector market, target opportunities include compliance-related systems.

Geographic Markets

Approximately 51% of AT&T GIS' total 1994 revenue was derived from the U.S. and 49% from international sources.

A three-year summary of geographic sources of revenue is shown on the following page.

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AT&T GIS
Three-Year Source of Revenue Summary
($ Billions)

	Fiscal Year					
	1994		1993		1992	
Geographic Market	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
U.S.	$4.3	51%	$3.7	51%	$3.4	48%
International	4.2	49%	3.6	49%	3.7	52
Total	$8.5	100%	$7.3	100%	$7.1	100%

Approximately $1.1 billion of AT&T GIS' $2.8 billion in worldwide customer support services revenue was derived from the U.S. and $1.7 billion from international sources.

INPUT estimates approximately 53% of AT&T GIS' $600 million in professional services and systems integration revenue was derived from the U.S. and 47% from international sources.

Employees

AT&T GIS has approximately 46,250 employees worldwide, including 24,300 in the U.S.

AT&T GIS' Worldwide Services organization has approximately 18,500 employees, segmented as follows:

Customer Support Services

Americas
- Customer engineers 3,800
- Service sales consultants 100

International
- Customer engineers 8,860
- Global support systems engineers 1,040

13,800

Professional Services

Americas*—Consultants..... 1,200
International—Consultants..... 3,500
4,700

* *Includes the U.S., Canada, Mexico, and Latin America*

Customer support services personnel are in more than 210 locations throughout the Americas and in 135 countries worldwide.

Professional services personnel are in more than 200 locations throughout the Americas and in 135 countries worldwide.

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Key Services

AT&T GIS' full continuum of services are provided through the Worldwide Services organization.

- AT&T GIS provides Customer-Focused Solutions to support its customers with timely, accurate decision making data and the knowledge to use it effectively to drive business results.

- Customer Support Services offers implementation and life cycle management of hardware, network, software applications and operating systems.

- Professional Services offers front-end business and technology consulting which addresses and solves industry-specific issues as well as services to assist during solutions deployment and delivery.

- AT&T GIS' services are summarized in Exhibits C and D.

AT&T GIS' core service competencies are as follows:

- *Customer Information Services*—AT&T provides decision-based solutions to better manage the direct link between clients and their customers. AT&T GIS provides the global infrastructure to design, implement and maintain the environment.

- *Network Computing*—AT&T GIS has experience with data, voice, imaging and video networking.

- *Global Distributed Open Solutions*—AT&T GIS has more than 10 years experience in integrating, implementing and supporting open systems and can integrate and maintain disparate (multivendor) systems and mission critical proprietary systems into a coherent, productive environment. Includes client/server migration, consulting and project management expertise.

- *Business Critical Environments*—AT&T GIS provides the technical expertise, global infrastructure, tools and methodologies to provide a premium level of service within business critical and mission critical environments in its targeted industries.

- *Massively parallel systems*—Database design and implementation

AT&T GIS Consulting and Network Service Solutions offers clients support in the following areas:

- *Total Customer Management*—Contains all the services that are required to guide a client through a change process to help them be more focused on their customers, combining customer relationship consulting, customer satisfaction research, customer information consulting, human interface services and integrated business renewal.

- *Information and Technology Directions*—A consulting solution enabling a client to create their information and technology plans to support the realization of their enterprise business strategy.

- *Network Computing Services*—Set of professional, support and management services to address issues concerning networking technology and its effects on the business.

- *GlobalPM*™—AT&T GIS' Project Management service methodology.

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Exhibit C

AT&T GIS Customer Focused Service Solutions

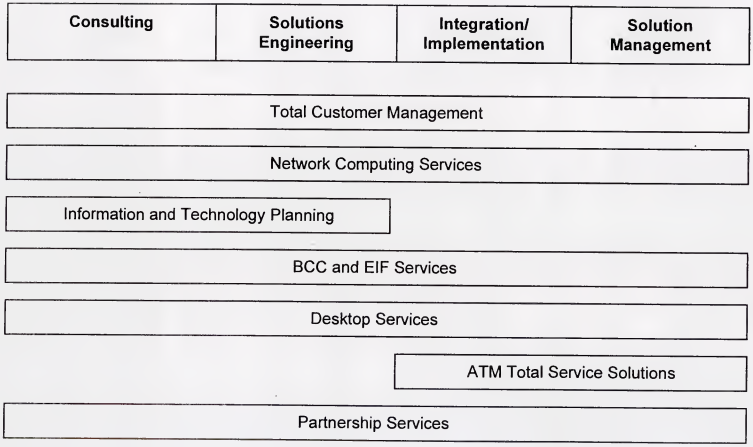

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Exhibit D

AT&T GIS Service Offerings

Consulting	Solutions Engineering	Integration/ Implementation	Solution Management
• Business Reengineering • Org. Change Mgmt. • Customer Insight Consulting • Information Consulting • Enterprise Arch. Planning • Technology Consulting • Network Consulting • Human Interface Consulting	• Network Planning and Design • Tech. Solution Design • Application Development • Database Engineering	• Migration Planning • Network Integration • Systems Integration • Installation	• Tiered System Support • Help Desk • Software Support • Hardware Support • Multivendor Services Mgmt. • Self Maintenance • Network Mgmt.

Global Project Management

Education

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- *Organization Change Management*— Research-based methodology providing a structured and customized approach to implementing strategic and tactical change initiatives

AT&T GIS offers several programs geared toward providing Customer Focused Solutions to its customers, including the Enterprise Information Factory™ and Business Critical Computing.

The Enterprise Information Factory supports decision making as well as action by integrating data from informational systems and operational systems into a single logical database management system.

- It builds upon the detail customer data established in the data warehouse to provide a single logical data model for informational and operational applications, giving organizations the ability to turn decisions into actions, better responding to customer needs and implementing new processes in support of horizontal re-engineering efforts.

- Enterprise Information Factory services have been developed to assist with all phases of a solution. Services phases include Needs Assessment, Solution Identification, Solution Impact, Solution Implementation and Solution Support and Maintenance.

- At the operational level, AT&T GIS offers core enabling products and services including:

  - AT&T's TOP END application management middleware product, which allows thousands of information requests to be handled on a response-time-sensitive basis across a corporate enterprise.

  - AT&T OneVision Network Management Solutions, a means of giving businesses a single point for monitoring and managing the widely disparate networking components deployed throughout their enterprises. OneVision facilitates deployment of the Enterprise Information Factory by providing a framework that helps consolidate information from multiple applications.

  - AT&T Enterprise Messaging, a business environment uniting electronic mail, electronic data interchange, voice messaging, workflow, query-by-mail and wireless elements.

- This integration of services into a whole product program benefits AT&T GIS and clients by assisting the Customer Focused Teams to deliver a solution that meets customer expectations.

Business Critical Computing (BCC) is a Solution Environment, consisting of services, technology and alliances. The objective of BCC is to provide a foundation (environment) for AT&T GIS' industry solutions and an IT re-engineering Solution Environment to enable the move from legacy computers to open, distributed computing.

- BCC is an industry focused and services led program that begins with understanding the customer's "business critical" processes and ends with the implementation of Customer Focused Solutions.

- BCC offers a portfolio of IT re-engineering approaches, including new client/server development, new packaged application integration, legacy application migration and integration of existing application and data assets.

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Customer Focused Solutions' project examples include the following:

- Providing an integrated customer information system for 800-FLOWERS to improve customer service

- Developing a solution to capture and consolidate point-of-sale data for Wal-Mart's 2,000 retail locations. and develop a customer database. The data provides sales information on the products of approximately 3,400 Wal-Mart suppliers, allowing them to track buying trends by store and ship products when needed, resulting in reduced inventory costs.

- Assisting U S WEST Communications to consolidate (on a daily basis) customer and other information from seven data centers onto a backbone network for marketing, analysis and forecasting.

- Supplying the networking and information system for Choice Hotels in support of its central reservations system and property management functions.

- Supplying an information system to combine client information from eight government agencies into a single database and perform data analysis for the Australian Department of Social Services related to social security entitlements.

- Working with System One (the reservations services subsidiary of Continental Air Lines) to facilitate education, training and market analysis of System One travel services and plan streamlining and re-engineering of customer service, sales and product management processes, including providing hardware products and maintenance, software support, warehousing, integration and installation.

- Providing workshops, business case studies, re-engineering, integration consulting, networking consulting, database consulting, rapid application development, project management and a massively parallel system to U.K.-based retailer W.H. Smith to improve information flow.

- Providing solution engineering and solution integration for Kmart related to product sales tracking.

- Providing a full solution to Banc One for credit card authorizations.

- Providing networked store automation solution for SuperAmerica.

- Providing network consulting for National Westminster Bank.

AT&T GIS also offers a range of IT project management, consulting and associated services. Contract examples include the following:

- Working with other subcontracts to build a LAN Administration Control Center in Houston to support Continental Airlines' operations throughout the U.S.

- Network design, planning and integration services for Bank of America.

- Business process reengineering and related consulting for Bank of Boston's deposit account management functions.

- Developing and integrating a reengineered retail lockbox system for First Union Bank.

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- Providing consulting, application development and implementation services for Ameritech's Civic Link Services.
- Providing systems analysis and logical data modeling to the Suffolk County Department of Civil Service.
- Providing network design and implementation services to Oklahoma Gas & Electric

Key Products

AT&T GIS offers the following hardware products:

- AT&T 3600 enterprise servers (massive parallel processors)
- AT&T 3500 enterprise services
- AT&T 3400 enterprise/departmental servers
- AT&T Notebook computers
- AT&T Globalyst personal computers
- NCR 3325 and NCR 3350 microcomputers

AT&T GIS also specializes in industry-specific equipment for the financial services and retail industries, including automated teller machines (ATMs), teller workstations, retail terminals and scanners.

AT&T GIS' Cooperative Computing Software provides an integrating environment for the company's Open Cooperative Computing Architecture. Products are grouped into four major categories:

- *Information Access Services*—to give users access to other systems in the enterprise
- *User Services*—to integrate the user with the information processing system to improve productivity and effectiveness
- *Application Services*—to allow developers to integrate existing applications and produce new, low-cost cooperative computing applications rapidly
- *Network Services*—to provide a number of local-area network and wide-area network options.

Clients

AT&T GIS has supplied Customer Focused Solutions and associated services to clients worldwide.

A sample of Customer Focused Solutions clients are summarized in Exhibit D.

Other clients (by industry) include:

Financial Services—Bank of Boston, CoBank, European American Bank, First Union Bank, Huntington Bank, Industrial Savings and Loan Association, Mercantile Bank, Mutual of Omaha, S.W.I.F.T., Title Guaranty Escrow Services.

Public Sector—Canada Post Corporation, Jackson County, Ministry of Human Resources Development and Citizenship & Immigration Department, New York State Liquor Authority, State of New Mexico Taxation and Revenue, State of Texas Department of Public Safety.

Retail—Applebee's, Caldor, Canadian Tire Corporation, Fabri-Center of America, Groosman's, JC Penney (Chile), Lechmere, Merck, National Convenience Stores, Reebok International, Southland Corporation, SuperAmerica, Thrifty Foods, Zellers.

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AT&T GIS Customer Focused Solutions Client List

Retail	Transportation	Telecommunications	Financial/Banking Insurance
Kmart	American Airlines Cargo	AT&T	ASB Bank Limited
Wal-Mart	Arket Reizen	Sprint	Banc One
Caldors	British Airways	U S WEST	Bank of America
800-FLOWERS	Canadian Airlines	Telecom Australia	Chase Manhattan
Helene Curtis	CONRAIL		Community Mutual
W.H. Smith	Delta Air Lines		Citibank
JC Penney	Lufthansa		First of America Bank Corporation
Sears	SNCF		The Capital Group
Grossman's	System One		Dime Savings Bank of New York
	Union Pacific Railroad		INVESCO Funds
			National Westminister
			TSB Bank
			Western Bank
			Reuters
			Fidelity Insurance
			Blue Cross Blue Shield of Illinois

Communications—Ameritech, BC Tel, BellSouth Advertising and Publishing Company, GTE Telephone Operations, Telecom New Zealand, U S WEST Communications.

Manufacturing—Anheuser-Busch, Chrysler, Coca-Cola, Hughes Aircraft, McDonald's, Oklahoma Gas and Electric, Pepsi-Cola, Proctor & Gamble, Star Enterprises, State Electric Supply, Whirlpool.

Marketing and Sales

AT&T GIS is marketing solutions oriented products and services by:

- Focusing on six industries (retail, financial services, communications, transportation, manufacturing (consumer goods) and public sector
- Emphasizing high level global marketing programs built around customer information solutions
- Increasing investment in services, alliances, marketing communications and infrastructure marketing

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In late 1994, AT&T GIS announced sales and marketing solutions in four of its targeted markets—retail (*High Performance Merchandising*), financial services (*Relationship Banking*), communications (*Marketing Management* System) and consumer goods manufacturing (*Relationship Manufacturing*).

- Although these solutions were previously available on a custom basis, they have now been "productized" and are more readily available.

- Using the Enterprise Information Facility services and the vertical market solutions described above, AT&T GIS' Customer Focused Teams can better evaluate and access their customers' needs.

Alliances

In March 1995, AT&T GIS and SHL Systemhouse signed a technology partnership agreement whereby AT&T GIS will use the SHL TRANSFORM performance support software environment as an integrated desktop for its services professionals and resell SHL TRANSFORM to its customers.

In August 1994, AT&T GIS and Delta Air Lines announced the formation of a joint venture to provide information technology services to Delta Air Lines.

- The joint venture manages all of Delta's computing and communications requirements, with the exception of the airline's reservation and related systems. Responsibility for the reservation system has been transferred to WORLDSPAN, a joint venture Delta, Northwest, TWA and ABACUS.

- Delta and AT&T share equal ownership of the venture, which is based in Atlanta and employs approximately 1,200 people. AT&T GIS is also establishing a new education facility in Atlanta to train the information technology staff on new technologies and provide continuing education opportunities.

- In addition to providing information technology services to Delta, the joint venture markets and sells computing and communications solutions to other companies in the travel and transportation industries, excluding airline and travel agency computer reservation systems.

- Under the terms of the agreement, Delta will buy an estimated $2.8 million in technology products and services from the joint venture.

- The venture is significant because it represents a major win in the growing market for outsourcing and professional services.

Currently, AT&T GIS has more than 1,100 partners worldwide, including the following:

- *Technology enablers*—Intel, Microsoft

- *Manufacturing*—Conner Disk Drives, Samsung, Intel

- *Consulting*—Andersen Consulting, Coopers & Lybrand, EDS, Perot Systems, SHL Systemhouse

- *Software/Applications*—Computer Associates, Informix, IRI Software, Oracle, Policy Management Systems Corporation, SAP, Sybase

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- *Distribution and Servicing*—CompuCom, Entex, Inacom, Intelligent Electronics, MicroAge, Osborne

Competitors

AT&T GIS' major competitors for professional services include IBM ISSC, Unisys, DEC and the Big 6

INPUT Assessment

AT&T GIS has maintained a low-key image but is now changing and attempting to promote its service capabilities. In today's IT market, this change is essential. AT&T GIS needs to double its Professional Services business in order to compete with companies such as IBM ISSC and Unisys.

The integration of AT&T GIS does not yet appear complete, yet this has huge potential rewards in the fast-growing networking market.

The new strategy is strong and we must now wait for the implementation.

Parent Company

AT&T
32 Avenue of the Americas
New York, NY 10012-2412
Phone: (212) 387-5400

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COMPANY HIGHLIGHT

AUTEX, INC.
55 William Street
Wellesley, MA 12181
(617) 235-1940

Alan P. Kay, Chairman and President
~~Public Corporation~~ Division of Itel Data Services

Total Company and Computer Services Sales
as of FY ending 9/75: $5,878,300

NUMBER OF EMPLOYEES engaged in computer services: 70

KEY PRODUCTS/SERVICES: AutEx provides remote computing services and leases related computer peripheral equipment.

- Securities Trading Information System is the firm's primary product. It provides buyers and sellers, stock brokers, dealers and financial institutions access to a data base of current block trading interests, and other miscellaneous information services. Information provided includes morning lists, new issues, trading and research files, position information, corporate bond portfolios, block trading statistics, bond yield calculations.

- Composit Ticker is optional. It shows trades executed in all markets: over the counter, on exchanges, and in the third market. Information is available as part of the historical record of each stock.

- Dial Up Service is strictly a pricing arrangement. Users are charged in accordance with how much they use the service rather than pay a flat rate. Thus, this makes the Securities Trading System more attractive to smaller institutions.

- AutEx also offers remote computing and batch processing on a limited scale to organizations in the Boston area.

APPLICATIONS: AutEx provides data base applications to the investment community regarding block trades.

INDUSTRY MARKETS: Users are concentrated in the financial community. Banks, insurance companies, brokerage houses and other financial institutions constitute the majority of AutEx revenues. Pension funds are also significant users. Some 400 users include Bank of America, Allstate Insurance, Goldman Sachs, Wall Street Associates, Mayer & Schweitzer, Inc.

GEOGRAPHIC MARKETS: The 30,000-mile network reaches 80 cities throughout the U.S. Branch offices are located in the following cities:

- New York City
- Chicago
- Los Angeles

COMPUTER HARDWARE AND SOFTWARE: The data base is maintained on one of the following Xerox computers; the other is used for back-up:

2	Xerox	Sigma 9	CP-V

Terminals supported are teletype compatible. Some 500 terminals tied in with the system include Datapoint 3300 and Hazeltine 2000 models.

OVERALL ASSESSMENT AND TRENDS: AutEx claims to have grown an average of 5% per month since it was founded in 1969, mostly in its earlier stages. As indicated earlier, sales reached $5,878,300 in 1975, with a net income of $1,220,800. Thus, profits were $1.95 per share; also a quarterly dividend of $.10 was paid. This compares to revenues of $5,414,400 in 1974 and a net loss of $306,100. The loss is attributed mostly to the introduction and discontinuation of the Lumber Trading Information System. Revenues for 1973 were $5,492,900 with a loss of $217,200.

Growth and income reflect stock market trends. High dependence upon stock market trends is a major shortcoming of the company. Thus far the company has concentrated upon the securities and brokerage industries. The Lumber Trading Information System its past attempt to diversify, was unsuccessful. Reasons for dropping the service were depressed conditions in the U.S. lumber market.

The new business development group seeks computer services and communications applications outside the brokerage industry. New services are being considered for commercial real estate, wholesale distribution, publishing, transportation and leased rail car management. AutEx has conducted test marketing in services outside the financial industry.

There is also considerable expansion activity occuring within the financial area. Under development is an automated system for borrowing and lending securities, also for options trading, commercial paper and related securities industry applications. Recent developments implemented include:

- In February, 1976 AutEx announced its block trading information will be put on Bunker Ramo's nationwide information system for the securities industry. In this way subscribers can use one terminal instead of two, which reduces cost and makes the Securities Trading Information System more attractive to small institutions.

- In February, 1976, Fundamental Brokers, Inc., a major Government Bond Broker began using the AutEx system to show current market quotations to some 30 primary Government Bond Dealers. FBI is using the system to show markets in treasury bills, intermediate coupons and federal agency obligations. Thus FBI is a "piggy-back" carrier of the AutEx securities database.

Expansion plans include both internal growth and acquisitions. Guidelines for selecting acquisition candidates include:

- service oriented, with a data processing or communications emphasis
- proven performance
- profitable
- logical growth plan
- capable management, interested in becoming an operating division of a publicly held company

AutEx is also open to acquisition as indicated by recent negotiations with Tymshare, which made an offer and then withdrew it.

The rising role of institutions and corresponding block trades in the financial community have presented new opportunities for systems such as AutEx. The closest form of competition is the Comstock System offered by Cantor, Fitzgerald, a Los Angeles brokerage firm. At one time the New York Stock Exchange Block Automation System competed directly with AutEx, but has since been discontinued. Also, the National Association of Securities Dealers (NASD) have expressed an interest in developing such a system. It will be sometime, however, before the Securities Exchange Commission and other regulatory bodies determine just who should be allowed in the market.

Reflecting the philosophy of Chairman Alan F. Kay, AutEx is highly public relations oriented. Dr. Kay is convinced that this has contributed to the wide usage of the system. He was formerly the Vice President and Director of TRG, Inc., a company which he helped to develop. It manufactured communications and navagation equipment and was acquired by Control Data in 1964.

COMPANY HIGHLIGHT/AUTEX INC.

Several management changes occured during 1974. Since then key members of top management selected at that time include Henry H. Greer, Executive Vice President and Theodore R. Pleim, Vice President and Treasurer. Both of them joined AutEx in 1974. John F. Keane, President of Keane Associates, Inc. was elected to be one of five members of the board of directors.

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1996

AT&T Solutions

CEO: **Victor E. Millar**
1300 I Street, NW
Suite 1100
Washington, D.C. 20005
Phone: (202) 414-6800
Internet: http://www.att.com/solutions

Status:	Subsidiary
Parent:	AT&T Corporation
Employees:	11,000+ (6/96)
Revenue:	$550,000,000*
Fiscal Year End:	12/31/95

** INPUT estimate*

Key Points

- AT&T Solutions was formed by AT&T in February 1995 to marshall all of its capabilities in information and technology management to provide large corporations with a single source for network-centric solutions.
- During its first year of operation, AT&T Solutions grew from 5,000 to more than 11,000 employees.
- In April 1996, AT&T Solutions opened the first of six Global Client Support Centers in Durham (NC) to provide clients with virtual networking management services.

Company Description

AT&T Solutions provides consulting, systems integration, and outsourcing (systems operations) services to more than 200 clients worldwide.

- The company designs, builds, and manages networking solutions that combine the power of computing and communications.
- AT&T Solutions also draws on the resources of AT&T (public, private, and wireless networking, networked computing, premises voice, video, text, and data products) and

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the technological expertise of AT&T Laboratories to serve its customers.

- AT&T Solutions targets the Global 2000—the 2,000 largest global organizations within seven industries. Major industry groups served by AT&T Solutions include financial services; manufacturing and distribution; retail and wholesale; transportation and hospitality; media, entertainment and communications; utilities and energy; and health management.

Organization and Structure

AT&T Solutions is headed by Victor E. Millar, formerly president of Unisys Corporation's Worldwide Information Services. Mr. Millar reports directly to AT&T's president and COO, Alex Mandl.

AT&T Solutions is organized into three practice areas as follows:

- The Consulting practice is headquartered in Washington, D.C.
- The Systems Integration practice is headquartered in Vienna (VA).
- The Outsourcing practice is headquartered in Florham Park (NJ).

AT&T Solutions' practices are supported by the following units:

- Industry Planning provides cross-industry strategic planning, information, and coordination.
- Technology Planning provides AT&T Laboratories' advanced technologies and innovations.
- Market Management is responsible for strategic market management, image advertising, growth planning, and analyst relations.
- Global Sourcing supports the firm by providing access to knowledge capital.
- Professional Practices is responsible for methodologies, professional development and training, and client satisfaction monitoring and evaluation.
- Human Resource manages the company's human resource functions.

AT&T Solutions' current organization is shown in the exhibit on the following page.

In addition its headquarters in Washington, D.C., AT&T Solutions has U.S. offices in the metropolitan areas of Atlanta, Boston, Chicago, Dallas, Detroit, Jacksonville, Los Angeles, New Jersey, New York, San Francisco, and Washington, D.C.

International offices are in Beijing, Gargaon, Hong Kong, Kuala Lumpur, Manila, Melbourne, Seoul, Singapore, Sydney, Tokyo, Amsterdam, Brussels, Frankfurt, Geneva, London, Madrid, Metz, Milan, Munich, Oslo, and Paris.

Company Strategy

AT&T Solutions' mission is to "*establish long-term, professional services relationships with senior executives of the largest enterprises worldwide helping them transform the rules of competition in their industry through electronic commerce.*"

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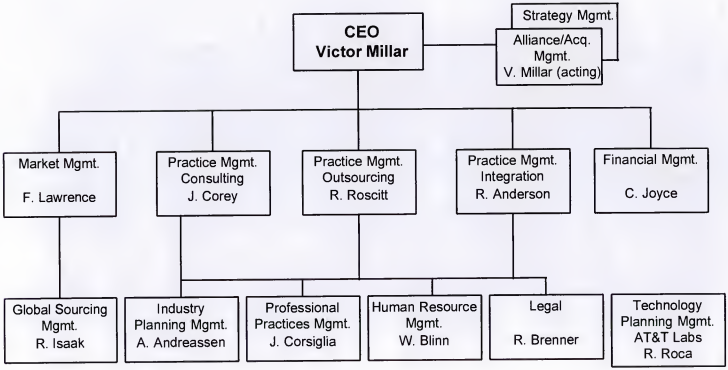
Exhibit
AT&T Solutions Organization



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According to AT&T Solutions, electronic commerce creates interdependencies between a company's value chain and the value chains of its suppliers and customers. The company that optimizes, or coordinates, those links to the outside creates competitive advantage. Electronic commerce will spurn new businesses and transform industries.

AT&T Solutions serves as its clients' "strategic ally," helping them Futurize℠ their organizations by leveraging AT&T's capabilities.

- AT&T Solutions believes businesses must shift toward managing what is done today from the perspective of what the future will be. The companies that Futurize—manage the present from the future—will gain competitive advantage through innovative electronic commerce processes.
- AT&T Solutions' three integrated practices provide the expertise to manage the challenges of keeping up with the current status and anticipating future trends.
- With an in-depth understanding of client's business needs and vision, AT&T Solutions designs, builds, and operates the best business solutions to Futurize their investments in technology, improve their profitability, and create sustained, competitive advantage.

Specific elements of AT&T Solutions' strategy includes:

- Seven industry focus
- Targeting Global 2000 companies
- Electronic commerce at the forefront of business transformation and growth

AT&T Solutions targets the growing number of Global 2000 business customers who want total, end-to-end solutions for their information and networking technology needs and want a single supplier to manage their information resources so they can concentrate on their core businesses

Financials

INPUT estimates AT&T Solutions' worldwide revenue for 1995 was $550 million. It is estimated that the company's current run-rate is $1 billion.

Revenue Analysis by Product/Service

INPUT estimates AT&T Solutions' 1995 information services revenue was segmented approximately as follows:

Systems operations (outsourcing)	70%
Systems integration	20%
Professional services (consulting)	10%
	100%

Market Financials

AT&T Solutions targets seven industry groups—financial services; manufacturing and distribution; retail and wholesale; transportation and hospitality; media, entertainment and communications; utilities and energy; and health management.

Geographic Markets

AT&T Solutions derives revenue from U.S. and international clients.

Employees

AT&T Solutions currently has more 11,000 employees.

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Key Products and Services

AT&T Solutions delivers its services through personnel organized into three practice areas—Consulting, Systems Integration, and Outsourcing.

Outsourcing

AT&T Solutions can take responsibility for managing and operating voice, data, and video networks, from legacy systems, desktop, and premises equipment and applications, to global voice and data networks and business processes.

Networking operations services provided by AT&T Solutions include the following:

- IT outsourcing
  - Networking management
  - Networking computing and premises management
  - Data center management
- Business process management—Services in this area include sales, lead generation, customer service, product support, account management, dealer locator, customer help desk, and relationship management.
- Transaction platforms management

In April 1996, AT&T Solutions opened the first of its Global Client Support Centers (GCSC) in Durham (NC).

- The two-story, 70,000-square-foot facility is the first of six centers AT&T Solutions plans to open worldwide. It is equipped with advanced information technology to provide virtual networking management services globally.
- The GCSC network infrastructure enables customized, end-to-end, remote information management functions such as local-area network (LAN) and wide-area network (WAN) management, management report generation, and desktop software support, supporting a full suite of multivendor voice and data IT environments.
- The center is scaleable and can evolve with client requirements and is built around a center-of-excellence, client-focused team environment.
- The GCSC offers four integrated IT competencies:
  - Help management—as a single point of contact to the client, the client team moves beyond the industry-standard help-desk by focusing on business improvements gained through proactive, integrated monitoring and management of the client's network, components and applications
  - Networking management—client associates specialize in predictive, end-to-end management of voice, video, and data services from desktop to desktop; additionally, they provide fault, performance and trend analysis, capacity planning, configuration management, complex provisioning/installation support, and supplier management
  - Business management—client associates provide services that include product procurement, provisioning, inventory and asset management, and billing support such as expense verification and chargeback services
  - Networked computing and premises management—client associates direct the operation and physical management of the client's LANs, PCs/workstations and servers, standard and custom applications, and multimedia, premises-based information technology systems such as

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PBXs, voice processing systems, and videoconferencing systems.

- The center also provides a gateway to AT&T's global technical and networking resources, including World Partners, SDN Networking Services, WorldNet Internet and emerging services, Interspan, frame relay, ATM SONET, wireless, and local access.

- The center, which will employ up to 560 people, operates seven days a week, 24 hours a day and has disaster recovery, backup processing-servers and backup generator power.

Consulting

AT&T Solutions provides consulting services to help corporations define and direct business objectives, design business processes, plan and design enterprise architecture, including the computing tools and communications infrastructure necessary to achieve the desired results.

AT&T Solutions' consulting personnel with industry expertise are aligned with researchers from AT&T Laboratories to form client service teams with industry knowledge and understanding of electronic commerce technologies. These teams:

- Introduce ideas to clients and help clients with their own ideas

- Assist clients in evaluating alternatives and setting priorities

- Design new processes, the architecture needed for the network and systems, the migration plan, and the change management process.

AT&T Solutions' Consulting practice has four centers of excellence:

- Customer management

- Change management

- Business process redesign

- Information planning (including architecture and migration planning)

Systems Integration

AT&T Solutions' Systems Integration practice rapidly develops and integrates custom business systems to implement client strategies.

- The company leverages distributed object computing, AT&T communication and data networking, and expertise in complex program management involving multiple vendor platforms and software.

- The Systems Integration practice also works with the Consulting and Outsourcing practices and with AT&T Laboratories to deliver solutions to its clients.

The Advanced Technology Center, headquarters for the Systems Integration practice, provides common space, a development environment and laboratory facilities to deliver electronic commerce solutions to its customers.

Contracts

In May 1996, AT&T Solutions, J.P. Morgan, Computer Sciences Corporation, Andersen Consulting, and Bell Atlantic Network Integration announced an agreement in principle to form a strategic alliance (the Pinnacle Alliance) to manage parts of J.P. Morgan's global technology infrastructure. The value of the seven-year agreement is estimated at more than $2 billion.

- The alliance will manage the firm's data centers in New York, London, and

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Delaware; distributed computing operations (such as desktop support and local-area networks); and voice and data services in New York, London, Delaware, Paris; and certain internal corporate applications in the U.S. and Europe.

- AT&T Solutions will be responsible for global network operations management.

In May 1996, AT&T Solutions announced a six-year, $500 million network management outsourcing deal with Merrill Lynch to manage and support the frame-relay-based network of 630 Merrill Lynch branches around the world, plus call centers and data centers.

- The contract calls for AT&T Solutions to provide and manage networking capabilities for Merrill Lynch's Trusted Global Advisor platform which allows Merrill Lynch consultants to provide immediate service to their clients on a worldwide basis.

- AT&T Solutions will provide AT&T platforms and AT&T systems management technology and tools, implementation assistance, Global Client Support Center services, call center management services, and program management.

- The contract will also consolidate a variety of services currently delivered by other service providers

In April 1996, MasterCard International awarded AT&T Solutions a multimillion-dollar contract to design, build, and support a new global transaction processing network to support MasterCard's global business activities.

AT&T Solutions is working with First National Bank of Chicago to develop, operate and maintain the Federal Tax Payment System for the U.S. Treasury.

In November 1995, AT&T Solutions was awarded a five-year contract worth more than $24 million to design and manage a global telecommunications network for McDermott International. AT&T Solutions will deploy and manage McDermott's enterprise-wide communications capabilities for voice, video, and data. This will include a global wide-area network with distributed router management, AT&T Software Defined Network service and AT&T InterSpan Frame Relay service.`

In May 1995, AT&T Solutions was awarded a 10-year service agreement to design and manage a new telecommunications system for railroad CSX Transportation Inc.

Clients

AT&T Solutions has a customer base of 200+ clients. A sampling of clients by industry follows:

- *Financial Services*—First Chicago, MasterCard International, Merrill Lynch, Solomon Brothers, Fidelity Investments

- *Manufacturing*—3M, AlliedSignal, PPG

- *Retail/Wholesale*—J.C. Penney, Mercantile Stores, the Southland Corporation

- *Transportation/Hospitality*—CSX, Consolidated Freightways

- *Media*—Continental Cable

- *Utilities/Energy*—McDermott International, Ohmeda Gas

- *Health Management*—McKesson, Equitable Life

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AT&T Solutions has a number of other clients whose relationships are confidential.

Marketing and Sales

AT&T Solutions markets its services through image/awareness building and other marketing communications efforts.

Competition

AT&T Solutions' competitors, by service area, include the following:

- *Consulting*—McKinsey & Co., Booz-Allen & Hamilton, Bain & Co., AT Kearney, and Boston Consulting Group
- *Systems Integration*—Andersen Consulting, EDS, American Management Systems, IBM ISSC, and Unisys
- *Outsourcing*—EDS, MCI/SHL, IBM ISSC, Computer Sciences Corporation, and Andersen Consulting

Assessment

AT&T Solutions considers its strengths to include:

- Leading edge electronic commerce initiatives to create competitive advantage and change the rules of competition
- World-class talent with specific industry expertise
- AT&T quality reputation and resources
- AT&T Laboratories
- The Global Client Support Center, which can manage a client's entire infrastructure, from desktop to desktop, while providing a gateway to AT&T's network resources

Challenges over the coming year include:

- Continuing to recruit qualified professionals to meet business demands
- Continuing an aggressive worldwide expansion plan

Parent Company

AT&T Corporation
32 Avenue of the Americas
New York, NY 10013-2412
Phone: (212) 387-5400

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

July 1996

Autodesk, Inc.

Chairman,
President & CEO: Carol A. Bartz
111 McInnis Parkway
San Rafael, CA 94903
Phone: (415) 507-5000
Fax: (415) 507-5100
Internet: http://www.autodesk.com

Autodesk

Status:	Public
Employees:	1,958 (5/96)
Revenue:	$546,884,000
Fiscal Year End:	1/31/96

Key Points

- Autodesk is the world's leading supplier of design automation software and a leading provider of multimedia software with more than three million customers worldwide. The company believes that its principal software products—AutoCAD®, AutoCAD® LT, AutoSketch®, AutoCAD® Designer, Mechanical Desktop, and 3D Studio® MAX—are the world's most widely used general-purpose computer-aided design (CAD) software products.
- AutoCAD Release 13, with its rearchitected core technology, began shipping in late November 1994.
- The final AutoCAD Release 13 platform, for Windows 95 and Windows NT, is significantly faster than earlier versions and includes new features such as real-time Pan and Zoom.
- In May 1996, Autodesk expanded is offerings to the interior design market with the acquisition of Creative Imaging Technologies, a software and digital imaging company.
- In April 1996, Autodesk began shipping 3D Studio MAX, the company's next-generation multimedia product.

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All brand names and product names are acknowledged to be trademarks or registered trademarks of their owners.

- In April 1996, Autodesk introduced two Internet products—WHIP!™ Plug-in, a 2D browser, and HyperWire™, an authoring tool for the World Wide Web.

- In early 1996, Autodesk shipped Autodesk Mechanical Desktop for mechanical design.

- Autodesk's European sales led the company's growth, with an increase of 33%.

Company Description

Autodesk provides PC- and UNIX-based design software and PC multimedia tools. The company has three million customers in nearly 130 countries.

- The company's 2D and 3D products, geographic information systems, and data management tools are used in many industries for mapping, architectural design, mechanical design, film and video production, video/game development, and Web content development.

- Autodesk's principal product—AutoCAD—has an installed base approaching 1.5 million seats worldwide.

- Its Kinetix division provides PC-based 3D modeling and animation software, providing a range of products for digital media and design professionals.

- Autodesk products are sold through Autodesk Systems Centers, Dealers, and Distributors worldwide.

Operations and Structure

Autodesk is currently organized into the following groups:

- Product Development focuses on developing specific software products and core tools, such as graphical engines and visualization technologies.

- Marketing has realigned its internal marketing organization around five key market groups that closely match its customer base. Each of these groups is chartered with bringing customer-specific products to market.

  - The Architecture, Engineering and Construction/Facilities Management (AEC/FM) Market Group addresses Autodesk's traditional architectural, engineering, construction, and facilities management markets.

  - The Mechanical Computer-Aided Design (MCAD) Market Group offers products that use 3D, free-form surfacing technology for mechanical design and manufacturing applications in various industries, including the automotive and consumer products sectors.

  - The Geographical Information Systems (GIS) Market Group targets municipalities, utility companies, and agricultural or environmental organizations. The group is addressing how automated mapping/facilities management, GIS, and CAD users can share mapping, GIS, and associated information in a corporate environment.

  - The Data Management (DM) Market Group develops and markets products that allow users to organize, access, share, view, and revise design-related information.

  - The Kinetix division (formerly the Multimedia Market Group) offers 3D content-creation software focused on film, video, interactive games, and design visualization.

- Autodesk Data Publishing, through partnerships with various manufacturing

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companies, markets CD ROM-based libraries of intelligent, preformatted graphic and nongraphic data that can be shared and reused.

- The Advanced Products Group focuses on providing a new generation of tools for a much broader market. The goal of this group is to add to Autodesk's traditional design-automation customer base—architects and engineers—by creating products for individuals in associated trades, such as landscaping and interior design.

- Autodesk is organized geographically into three sales regions—the Americas, Europe, and Asia/Pacific.

U.S. offices are in Alameda, Encinitas, and San Rafael (CA); Atlanta (GA); Bothell (WA); Chicago (IL); Cincinnati (OH); Dallas (TX); Florham Park (NJ); Londonderry (NH); Milwaukee (WI); Novi (MI); Reston (VA); and Tulatin (OR).

Foreign subsidiary/office locations are as follows:

- *Americas*—Brazil, Canada, Chile, Colombia, Mexico, and Venezuela

- *Europe*—Austria, Belgium, Czech Republic, France, Germany, Hungary, Israel, Italy, Netherlands, Poland, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, the U.K., and the United Arab Emirates

- *Asia/Pacific*—Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, Singapore, South Korea, and Taiwan

Company Strategy

Autodesk's long-term strategy is to create an interoperable family of design automation software products to address the entire product development process—from rough concept to final production and maintenance.

- The strategy takes advantage of Autodesk's core technologies and open systems approach to its four primary target markets—AEC; mechanical design and manufacturing; mapping, geographical information systems (GIS); and visualization.

- Autodesk has established a second major area of activity—Advanced Products—to provide a development environment to create new products that complement design automation and support new market opportunities.

Autodesk's strategy also includes maintaining an open architecture on its products to facilitate third-party development of peripheral and complementary products.

Autodesk is constantly enhancing its distribution and marketing efforts to position itself for future growth. This includes expansion and strengthening of the company's retail channels, enhanced direct marketing and technology licensing programs, and establishing of new subsidiary offices worldwide.

Financials

Fiscal 1996 revenue reached $546.9 million, an 18% increase over fiscal 1995 revenue of $465.3 million. Net income increased 55%, from $56.6 million in fiscal 1995 to $87.8 million in fiscal 1996.

A five-year financial summary is shown on the following page:

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Autodesk, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

Item	Fiscal Year 1/96	1/95	1/94	1/93	1/92
Net revenue	$546.9	$465.3	$418.7	$367.7	$284.9
• Percent change from previous year	18%	11%	14%	29%	20%
Income before taxes	$138.3	$89.1	$96.8	$69.8	$92.3
• Percent change from previous year	55%	(a) (8%)	39%	(24%)	--
Net income	$87.8	$56.6	$62.2	$43.9	$57.8
• Percent change from previous year	55%	(9%)	42%	(24%)	2%
Earnings per share (b)	$1.76	$1.14	$1.25	$0.88	$1.15
• Percent change from previous year	54%	(9%)	42%	(24%)	--

(a) Includes a one-time litigation charge of $25.5 million.

(b) Restated to reflect a two-for-one stock split in October 1994.

Fiscal 1995 results include a one-time charge of approximately $25.5 million related to a judgment in a trade-secrets lawsuit. Excluding that charge, net income for fiscal 1995 would have been $73.1 million ($1.47 per share) and fiscal 1996 net income actually increased 20% over fiscal 1995.

Autodesk management attributes revenue growth in fiscal 1996 to higher sales of AutoCAD Software, as well as increased sales of multimedia, data management, and low-end CAD product offerings, most notably AutoCAD® LT.

- Revenues from AutoCAD and AutoCAD updates increased from the prior year to approximately $435 million, up from $365 million in fiscal 1995 and $345 million in fiscal 1994. Worldwide demand for AutoCAD remained strong, resulting in the sale of 233,000 new licenses in fiscal 1996, compared to 203,000 in fiscal 1995. Fiscal 1996 AutoCAD update revenue resulted principally from sales of the most current AutoCAD version, AutoCAD Release 13, which was released in the fourth quarter of fiscal 1995. AutoCAD upgrade revenue increased 17% over fiscal 1995 to approximately $49 million.

- Revenue from non-AutoCAD products remained at approximately 20% of total revenue during fiscal 1996.

Net income was 16% of revenue in fiscal 1996, compared to 12% of revenue in fiscal 1995. Marketing and sales expenses were 34% of revenue for both years. General, administrative, and research and development expenses were 14% of revenue for both years.

- General and administrative expenses were $76.1 million (14% of revenue) in fiscal 1996, $65.7 million (14% of revenue) in fiscal 1995, and $58.5 million (14% of revenue) in fiscal 1994.

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- Research and development expenditures, excluding capitalized software, were $78.7 million (15% of revenue) in fiscal 1996, $65.2 million (14% of revenue) in fiscal 1995, and $56.2 million (14% of revenue) in fiscal 1994.

- The majority of Autodesk's basic research and product development has been performed in the U.S., while translation and localization of foreign versions is generally performed by development teams or contractors in the local market.

- Autodesk has centralized its European product-related functions, including software development, localization, quality assurance, technical publications, and production in a new software center in Neuchatel (Switzerland).

- Direct commissions paid to dealers were $12.7 million, $10.7 million, and $13.1 million for fiscal 1996, 1995, and 1994, respectively.

Interim Results

Net revenue for the three months ending April 30, 1996 reached $136.3 million, compared to $138.7 million for the same period in 1995. Net income for the quarter was $19.1 million, compared to $26.0 million for the same period a year ago.

Market Financials

Autodesk's family of products are targeted to a range of users, including mechanical, structural and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; multimedia, entertainment, video and game designers; and educators.

Substantially all of Autodesk's European, Asia/Pacific, and U.S. export sales are made to dealers and distributors.

Revenue Analysis by Product Line

One hundred percent of Autodesk's fiscal 1996 revenue was derived from the sale of its applications software products.

- Approximately 95% ($507 million) of revenue came from design automation products and 5% ($27 million) from multimedia products and other products.

- Sales of AutoCAD and AutoCAD updates accounted for approximately 80%, 80%, and 85% of Autodesk's revenue in fiscal 1996, 1995, and 1994, respectively.

Geographic Markets

Approximately 31% of Autodesk's fiscal 1996 revenue was derived from the U.S. and the remaining 69% from foreign sources, including exports and foreign subsidiaries.

A three-year financial summary by geographic market appears on the following page:

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Autodesk, Inc.
Three-Year Financial Summary
($ Millions)

	Fiscal Year					
			1/95		1/94	
Geographic Market	$	Percent of Total	$	Percent of Total	$	Percent of Total
Revenue						
• Americas	$195.3	36%	$182.1	39%	$177.8	42%
• Exports (a)	68.0	12%	67.2	15%	54.5	13%
• Royalties (b)	67.7	12%	48.5	10%	48.1	12%
• Europe (c)	211.5	39%	159.1	34%	138.3	33%
• Asia Pacific (c)	72.1	13%	56.9	12%	48.1	12%
(Eliminations)	(67.7)	(12%)	(48.5)	(10%)	(48.1)	(12%)
Total	$546.9	100%	$465.3	100%	$418.7	100%
Income from operations						
• Americas	$63.8	49%	$71.5	67%	$56.1	63%
• Europe (c)	53.7	42%	25.1	23%	24.7	27%
• Pacific Basin (c)	11.5	9%	10.8	10%	8.9	10%
Total	$129.0	100%	$107.4	100%	$89.7	100%

(a) Includes export revenue to Canada of $14.6 million, $15.7 million, and $16.2 million and export revenue to Asia/Pacific of $42.3 million, $36.5 million, and $26.8 million for fiscal 1996, 1995, and 1994, respectively.

(b) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(c) Represents the operations of Autodesk's foreign subsidiaries.

Fiscal 1996 revenues increased in all of Autodesk's major geographic markets over the prior fiscal year.

- Revenues increased by 33%, 23%, and 3% in Europe, Asia/Pacific, and the Americas, respectively, compared to fiscal 1995 growth in these regions of 15%, 25%, and 4%.
- The weaker value of the dollar, relative to international currencies, favorably affected fiscal 1996 revenues by approximately $18.8 million compared to fiscal 1995.

Acquisitions

In May 1996, Autodesk acquired Creative Imaging Technologies, Inc. of La Habra (CA). The acquisition will be accounted for as a purchase.

- Creative Imaging is a software and digital imaging company that serves the interior decorating market.
- Creative Imaging developed and markets Designer's Vision™ software for product sampling and project visualization used by interior designers, specifiers, and decorating retailers to search for and view samples of fabrics, wallcoverings, flooring, paints, and

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other decorative products. The company has relationships with more than 15 top suppliers of interior finish products, including F. Schumacher & Company, Hunter Douglas Window Fashions, Imperial Wallcoverings, Kravet Fabrics, and Robert Allen Fabrics.

- Creative Imaging will be integrated with Autodesk's Advanced Products Group.

In August 1995, Autodesk acquired certain assets of Automated Methods (Pty) Ltd. of South Africa, a provider of GIS software.

Employees

As of January 31, 1996 Autodesk had 1,894 full-time employees (1,251 in North America, 463 in Europe, and 180 in the Asia/Pacific region), segmented as follows:

Marketing, sales, and product support	911
Software development	472
Quality assurance	94
Production	56
General and administrative	361
	1,894

As of May 1996, Autodesk had 1,958 employees.

Key Products and Services

Autodesk offers design automation and multimedia products as follows:

CAD/Design Automation Products

Autodesk's design automation software products are used in a variety of applications, including mechanical design and engineering, architecture, mapping/GIS, facilities management. and civil engineering.

AutoCAD, the worldwide desktop CAD standard, was introduced in November 1982 and continues to be enhanced through regular releases.

- AutoCAD, available in nearly 130 countries and 19 languages, automates the design and drafting process by enabling users to interactively create, store, and edit a variety of drawings. This drawing information may be exchanged with other applications software, databases, and mainframe CAD systems.

- The most current version of AutoCAD, Release 13, was introduced in the U.S. in November 1994. Release 13 incorporates an object-oriented database, an enhanced and fully customizable user interface, and a powerful, integrated solid modeler.

- AutoCAD is used in fields ranging from architecture and mechanical design to plant design and mapping. Professionals use AutoCAD for design, modeling, drafting, mapping, rendering, and management tasks.

- Advanced AutoCAD functionality includes a 2D and 3D drafting feature set, integrated 3D solid modeling, rendering, extensive 2D geometry such as NURBS, ellipses, associative hatching, dimensioning, text editing, and spell checking.

- AutoCAD operates in many major desktop and workstation operating environments, including MS-DOS, Windows 95, Windows NT for both Intel and Alpha, Windows 3.1, and certain UNIX operating systems (Sun Solaris, HP-UX, Silicon Graphics IRIX, and IBM AIX).

- Because AutoCAD .DWG files are portable across many platforms and operating systems, it is a viable solution for customers with multiple computer systems and a need

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to exchange drawing files in such an environment.

- AutoCAD currently has an installed base of nearly 1.5 million units.

AutoCAD LT for Windows, introduced in late 1994, is a low-cost CAD package offering a range of 2D and basic 3D drafting capabilities. The product, with an installed base of more than 250,000 seats, is suited for CAD managers, designers, and engineers requiring a powerful, standalone CAD tool, but who do not need the advanced features of AutoCAD. The product is available for Windows 95 and Windows 3.1.

AutoSketch®, first released in late 1986, is a low-cost, entry-level 2D drawing package used for creating technical diagrams, architectural layouts, electrical drawings, mechanical plans, information graphics, and presentations. It offers easy tool customization; 13 library packs with more than 2,000 predrawn symbols; editing; double-precision geometry; and the ability to write .DWG files for AutoCAD and AutoCAD LT users. It is available for Windows and DOS.

AutoCAD OEM for Windows is a selectively licensed CAD engine providing an application development environment for creating targeted or niche solutions with scaled feature sets. It is for developers and enterprise-wide solution providers requiring an embeddable CAD system in which they can scale and control the application feature set.

Mechanical CAD Products

AutoCAD Mechanical Desktop, which began shipping in the first quarter of fiscal 1997, is an integrated software application that provides advanced 2D and 3D mechanical design functions for desktop PCs. Integrated modules are provided for parametric feature-based solid modeling, surface modeling, and assembly modeling, all with associative drafting, as well as AutoCAD Release 13 and the Autodesk IGES Translator, which enables users to exchange all versions of IGES-formatted files.

AutoCAD Designer works within AutoCAD to provide 3D feature-based solid modeling and assembly modeling. It is used by drafters, designers, and engineers involved in the conceptualization, design, or drafting of mechanical parts in a range of manufacturing industries, including automotive, electrical equipment, machinery, plastics, and aerospace. AutoCAD Designer resulted from the acquisition of Woodbourne in late 1993.

Advanced Modeling Extension (AME)® 2.1 works with AutoCAD's design and drafting features to provide users with a set of solid modeling tools for constructing, manipulating, and analyzing models.

AutoSurf™ is integrated with AutoCAD, AutoCAD Designer, and AutoVision to provide easy-to-use, 3D surface-modeling tools for use on PCs and engineering workstations. AutoSurf helps users design complex mechanical component parts such as consumer products, automotive products, molds, turbines, and propellers.

Autodesk Mechanical Library, available on CD ROM via a regularly updated subscription service, currently consists of two titles:

- *PartSpec* is a digital warehouse representing more than 56 leading U.S. vendors with more than 400,000 predrawn, purchasable, 2D parts drawings (plus associated attribute information) in AutoCAD .DWG file format for insertion into AutoCAD drawings.

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- *MaterialSpec* contains a database of more than 35,000 materials from more than 300 manufacturers worldwide.

AutoCAD Map, expected to ship during 1996, will be the first in a series of mapping and GIS software planned by Autodesk. It will incorporate the drafting power of AutoCAD, the data management functionality of AutoCAD Data Extension software, automated mapping and GIS tools, plus an application programming interface for designing custom applications.

Aemulus™ and Aemulus*mf*™ software products provide bidirectional file compatibility between AutoCAD and CADAM, a mainframe CAD program.

Autodesk WorkCenter is a Windows-based system that can be customized for managing technical documents and automating workflow for design teams of varying sizes. Its management tools allow users to organize documents according to specific needs; check documents in and out of a secured, multiuser environment; and automatically manage revisions over time.

Autodesk View is a low-cost CAD preview, view, and redline tool for design teams. With Autodesk View, project managers can distribute AutoCAD files and related documents to users in a workgroup who need to view and comment on them, and be assured that the original documents will not be altered in the process.

AutoCAD Data Extension™ (ADE) is an add-on program that incorporates AutoCAD drawings with database records and other documents into one integrated environment. The graphic information created with ADE allows users to locate data within AutoCAD drawings based on entity location; properties such as color, layer or linetype; or associated data.

Through Autodesk Data Publishing, the company publishes preformatted product and reference libraries for specific markets, including PartSpec and MaterialSpec (previously discussed) and PlantSpec (scheduled to ship in 1996), which provides purchased parts information to users in the process manufacturing industry.

AutoCAD IGES Translator 5.1 provides AutoCAD drawing-data translations for the easy exchange, use and reuse of drawings created on diverse CAD systems.

Kinetix Multimedia Products

3D Studio® MAX, which began shipping in the first quarter of fiscal 1997, is a 3D modeling and animation software package specifically written to take advantage of Windows NT.

3D Studio is a graphics package for creating professional-quality 3D modeling and animation. This PC-based product runs in DOS to provide modeling, animation, and rendering tools that help users create richly textured, workstation-quality images and animations. The product is well suited for animation designers and can be used to create corporate presentations, broadcast animations, industrial design visualizations, crime reenactments, and architectural walk-throughs, as well as for education and training.

AutoVision™ provides photorealistic still renderings within AutoCAD software for DOS and Windows.

Internet products introduced by Autodesk in April 1996 include the following:

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- WHIP! Plug-in is a World Wide Web browser plug-in that lets users dynamically view 2D vector design data stored in the WHIP! file format.

- HyperWire is an authoring tool for the World Wide Web that lets users create 3D and 2D Web titles based on using simple visual objects rather than complex programming commands. These titles are based on the Java language.

Autodesk Animator Studio, the Windows-based successor to Animator Pro^{R}, offers a combination of 24-bit 2D paint and animation, digital video and audio tools for creating and editing components of many multimedia applications.

Cyberspace Developer Kit is a complete toolset for 3D modeling, visualization and simulation. It includes a set of object-oriented C++ class libraries to aid in building real-time, PC-based virtual reality applications.

HOOPS is a portable, commercial, 3D graphics technology developed by Ithaca Software. It allows software developers to create interactive 2D and 3D graphics applications and provides a common high-performance interface to major PC and workstation operating systems, window managers, and graphic output devices.

Customer and Dealer Support

Autodesk requires each authorized dealer and distributor to provide a professional level of technical support to customers. Dealers and distributors, including owners and franchisees of computer stores, are supported by Autodesk through technical product training, sales training classes, and direct telephone support.

- The Autodesk Premier Support Center program requires participating dealers to provide a high level of technical support with special expertise in a specified vertical industry.

- The Autodesk Systems Center Solutions Training program requires dealers to provide superior industry-specific application training to users of Autodesk products.

- Both programs require that the dealers meet certain qualifications in order to receive an industry medallion and Solutions Training status.

- As of January 31, 1996, Autodesk had more than 900 independent authorized Autodesk Training Centers worldwide. These accredited training centers offer in-depth education and training in computer-aided design skills on AutoCAD and other Autodesk products, as well as on related, independently developed software.

Although Autodesk does not provide direct user support, the company offers on-line support to customers through its Home Page on the Internet and to customers who log onto the Autodesk Forum on CompuServe. The four Autodesk Forums are the AutoCAD Forum, the Autodesk Beta Forum, the Autodesk Multimedia Forum, and the Autodesk Retail Products Forum.

Clients

Autodesk has more than three million users of its products worldwide.

A sampling of major clients includes AFC (Sweden), Anshen + Allen, Arnold Air Force Base, Avondale Industries, Consolidated Edison, Digicon S.A. (Brazil), Japan Airline Co. Ltd., Kansai International Airport Co., Marvin Windows, Parker Hannifin, SBB Swiss Federal Railroad Company, and Sony Pictures Imageworks.

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Marketing and Sales

Autodesk's customer-related operations are divided into three geographic regions—the Americas, Europe, and Asia/Pacific. As previously discussed, Autodesk has aligned its internal marketing organization around five key market groups.

Autodesk's products are marketed through a network of domestic and foreign offices, creating a worldwide support and distribution system. Products are sold worldwide in nearly 130 countries through authorized dealers, distributors, and direct sales.

- The company now has more than 4,000 Authorized Autodesk Dealers and Distributors.

- Dealers and distributors, including both owners and computer store franchisees, are supported by Autodesk and its subsidiaries through technical training, direct telephone support, periodic publications, through the Autodesk Forum, and through Autodesk's Home Page on the Internet.

- Domestically, Autodesk distributes its products primarily through its authorized dealer network. Other domestic sales are made principally to large corporations, governmental agencies, educational institutions, and users for certain low-end CAD products.

- Autodesk major accounts programs work with dealers to support companies that are regional, national, and international in scope. These services include volume purchase agreements, on-site training, and support to large corporate accounts.

- The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

- In August 1993, Autodesk and Cordant, Inc. were awarded a 12-year facilities management contract to supply the Navy Facilities Command (NAVFAC) with design, construction, and management systems through the end of the century.

  - Called the NAVFAC CAD 2 program, it is the largest architectural and engineering CAD effort ever undertaken.

  - Autodesk and Cordant will supply computer-aided design software, hardware, and support services. Intergraph also received a contract. The total amount of the two contracts may not exceed $550 million.

- Internationally, substantially all sales are made to dealers and distributors, which are supported by Autodesk's foreign subsidiaries and international sales organizations.

Autodesk works with dealer and distributor sales organizations, computer manufacturers, other software developers, and graphics peripheral manufacturers through cooperative advertising, promotions, and trade show presentations.

Autodesk holds annual "Expos" throughout the world. These dedicated trade shows, incorporated within major industry trade shows, highlight the company's products as well as a number of third-party products. Autodesk also uses mass marketing, including direct mailings, public relations, and advertising in business and trade journals.

Alliances

To support the growth of third-party developers worldwide whose applications extend and enhance the functionality of

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Autodesk's products, Autodesk has established the Virtual Corporation Partner Program. This program provides sales, marketing, technical, and financial support to Autodesk Strategic Developers.

- To date, more than 2,500 Autodesk Registered Developers worldwide have developed more than 4,500 commercially available add-on applications for Autodesk products.

- Although Autodesk derives no direct revenue from these application developers, the company believes that the availability and use of such add-on products enhances sales opportunities for the company's core products.

During fiscal 1996, Autodesk introduced the Mechanical Application Initiative (MAI) partner program, aimed at the development and marketing of products that can be integrated with Autodesk's MCAD products.

The Multimedia Plug-In Partnership extends Autodesk's franchise into the multimedia market. 3D Studio is now sold by more than 700 Authorized Dealers and Distributors, and 200 Independent Application Developers provide 3D Studio "plug-in" applications.

Competitors

AutoCAD competitors include Personal Designer and CADDS by Computervision, CADKEY by Cadkey, Inc., MICRO CADAM by CADAM Systems Company, and MicroStation by Bentley Systems.

Domestically, Autodesk's mechanical design products compete with Parametric Technology Corporation's Pro/ENGINEER and Pro/JR, the Master Series from Structural Dynamics Research Corporation, ANVIL-5000 by MCS, and the CATIA and CADAM products offered by Paris-based Dassault Systems and sold by IBM.

Competitors in the data management market include AM Workflow from Cyco and AutoEDMS from ACS Telecom.

Autodesk's primary multimedia products, 3D Studio, AutoVision, and Animator Studio, compete with products available on PCs and computer systems offered by Silicon Graphics.

- Products competing with 3D Studio include Lightwave by Newtek and Truespace by Caligari.

- Animator Studio competes with various products, including Painter by Fractal Design and After Effects from Adobe.

- AutoVision software competes with two third-party add-on products: AccuRender from Robert McNeel and RenderStar by RenderStar Technologies.

The Cyberspace Developer Kit competes with Sense8's WorldToolKit and SuperScape VRT3 from Dimension Ltd.

Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

INPUT Assessment

Autodesk's strengths include its strong CAD software offerings, including AutoCAD, the worldwide de facto CAD standard. Building on the strength of AutoCAD, Autodesk has developed an integrated, diverse family of products to serve the needs of customers throughout the design automation and multimedia markets.

During 1993, Autodesk surpassed IBM to become the world's number one design automation software supplier. The company

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claims to have 60% of the PC animation software market.

Autodesk also has a strong network of partners called the "Autodesk Virtual Corporation." This network is comprised of more than 4,300 resellers, more than 2,500 authorized Autodesk developers, 900 training centers, and more than 350 user groups. The Autodesk Virtual Corporation allows the company to leverage the strength of each of its partners and extend its presence across markets and geographies.

Autodesk is working with Netscape to extend the Internet into a virtual engineering environment. Designers and engineers will use Autodesk's WHIP! technology and Netscape's Navigator Gold and Enterprise server software to collaborate on, publish, and manage design data over the Internet.

Key challenges for Autodesk include continuing to make the company grow faster than the industry through market and geographic strategies.

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2000

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

July 1995

Autodesk, Inc.

Chairman,
President & CEO: **Carol A. Bartz**
111 McInnis Parkway
San Rafael, CA 94903
Phone: **(415) 507-5000**
Fax: **(415) 507-5100**

Autodesk

Status:	Public
Employees:	1,800 (6/95)
Revenue:	$ 465,278,000
Fiscal Year End:	1/31/95

Key Points

- Autodesk is the world's number one supplier of design automation software and a leading provider of multimedia software with three million customers worldwide. The company believes that its principal software products —AutoCAD[R], AutoCAD[R] LT and AutoSketch[R] —are the world's most widely used general-purpose computer aided-design (CAD) software products.
- AutoCAD Release 13, with its rearchitected core technology, began shipping in late November 1994.
- Autodesk has introduced Autodesk WorkCenter™ data management software to streamline the flow of documents and files.
- During fiscal 1995, Autodesk also launched new releases of its 3D Studio® and AutoVision™ multimedia and visualization products.
- Autodesk increased its international market presence in fiscal 1995 by adding new offices and additional resources in Indonesia, Malaysia, Poland, Hungary, China and the United Arab Emirates.

Company Description

Autodesk, incorporated in April 1982, develops, markets and supports a family of design automation and professional

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multimedia software products for personal computers and workstations.

Autodesk's software products are used for tasks ranging from architectural and mechanical design, construction and manufacturing, to forensic animation and computer-games development. Autodesk's principal product—AutoCAD—has an installed base of more than one million seats worldwide.

Autodesk's customer base totals more than three million users who are supported either through a network of authorized dealers or directly by the company.

Operations and Structure

Autodesk is currently organized into the following groups:

- Core Technologies focuses on developing core tools, such as graphical engines and visualization technologies.

- Product Development focuses on developing specific software products.

- Marketing has realigned its internal marketing organization around five key market groups that closely match its customer base. Each of these groups is chartered with bringing customer-specific products to market.

  - The Architecture, Engineering and Construction/Facilities Management (AEC/FM) Market Group addresses Autodesk's traditional architectural, engineering, construction and facilities management markets.

  - The Mechanical Computer-Aided Design (CAD) Market Group offers products that use 3D, free-form surfacing technology for mechanical design and manufacturing applications in various industries, including the automotive and consumer products sectors.

  - The Geographical Information Systems (GIS) Market Group targets municipalities, utility companies and agricultural or environmental organizations.

  - The Data Management Market Group develops and markets Autodesk's data management software offerings.

  - The Multimedia Market Group offers products that address a range of animation, simulation and visualization capabilities for the PC.

- Autodesk Data Publishing, through partnerships with various manufacturing companies, markets CD ROM-based libraries of intelligent, preformatted graphic and nongraphic data that can be shared and reused.

- The Advanced Products Group focuses on providing a new generation of tools for a much broader market. The goal of this group is to add to Autodesk's traditional design-automation customer base—architects and engineers—by creating products for individuals in associated trades, such as landscaping and interior design.

- Autodesk is organized geographically into three sales regions—the Americas, Europe and Asia/Pacific.

U.S. offices are in San Rafael (CA), Atlanta (GA), Bothell (WA), Chicago (IL), Cincinnati (OH), Dallas (TX), Florham Park (NJ), Milwaukee (WI), Novi (MI) and Reston (VA).

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Foreign subsidiary/office locations are as follows:

- *Americas*—Canada, Brazil, Chile, Mexico and Venezuela
- *Europe*—Austria, Czechia, France, Germany (and Eastern Europe), Hungary, Israel, Italy, Netherlands, Poland, Portugal, Russia, Spain, Sweden, Switzerland, the U.K., the United Arab Emirates, Africa
- *Asia/Pacific*—Australia, China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Singapore, Taiwan

Company Strategy

Autodesk's long-term strategy is to create an interoperable family of design automation software products to address the entire product development process—from rough concept to final production and maintenance.

- The strategy takes advantage of Autodesk's core technologies and open systems approach to its four primary target markets—AEC; mechanical design and manufacturing; mapping, geographical information systems (GIS); and visualization.
- Autodesk has established a second major area of activity—Advanced Products—to provide a development environment to create new products that complement design automation and support new market opportunities.

Autodesk's strategy also includes maintaining an open architecture on its products to facilitate third-party development of peripheral and complementary products.

Autodesk is constantly enhancing its distribution and marketing efforts to position the company for future growth. This includes expansion and strengthening of the company's retail channels, enhanced direct marketing and technology licensing programs and the establishment of new subsidiary offices worldwide.

Financials

Fiscal 1995 net revenues reached $465.3 million, an 11% increase over fiscal 1994 revenue of $418.7 million. Net income was $56.6 million, a 9% decrease from net income of $62.2 million in fiscal 1994.

- Fiscal 1995 results include a one-time charge of approximately $25.5 million related to a judgment in a trade-secrets lawsuit. Excluding that charge, net income for fiscal 1995 would have been $73.1 million ($1.47 per share).
- A five-year financial summary is shown on the following page:

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Autodesk, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

Item	Fiscal Year 1/95	1/94	1/93	1/92	1/91
Net revenue	$465.3	$418.7	$367.7	$284.9	$237.9
• Percent change from previous year	11%	14%	29%	20%	33%
Income before taxes	$89.1	$96.8	$69.8	$92.3	$92.0
• Percent change from previous year	(a) (8%)	39%	(24%)	--	20%
Net income	$56.6	$62.2	$43.9	$57.8	$56.8
• Percent change from previous year	(9%)	42%	(24%)	2%	22%
Earnings per share (b)	$1.14	$1.25	$0.88	$1.15	$1.15
• Percent change from previous year	(9%)	42%	(24%)	--	21%

(a) Includes a one-time litigation charge of $25.5 million.

(b) Restated to reflect a two-for-one stock split in October 1994.

Autodesk management attributes revenue growth in fiscal 1995 to sales of new products and new releases of existing products, such as AutoCAD® LT, AutoCAD® Designer, 3D Studio Release 4 and AutoVision Release 2; continued growth from sales of AutoCAD software; and to a lesser extent, from favorable movements in foreign currency exchange rates.

- Revenues from AutoCAD and AutoCAD updates were $365 million in fiscal 1995, up from $344.8 million in fiscal 1994. The most current release, AutoCAD Release 13, was introduced in the U.S. and certain foreign markets in the fourth quarter of fiscal 1995. The growth in AutoCAD revenues resulted from increased sales of the commercial versions in Asia/Pacific, Europe and Latin America and an increase in AutoCAD upgrade revenues resulting from strong initial demand for Release 13 updates.

- Revenue from non-AutoCAD products increased to approximately 20% of total revenue during fiscal 1994 due to increased sales of AutoCAD LT, AutoCAD Designer and new multimedia products.

Net income was 12% of revenue in fiscal 1995, compared to 15% of revenue in fiscal 1994. Marketing and sales expenses were 34% of revenue for both years. General, administrative and research and development expenses were 14% of revenue for both years.

- General and administrative expenses were $65.7 million (14% of revenue) in fiscal 1995, $58.5 million (14% of revenue) in fiscal 1994 and $55.0 million (16% of revenue) in fiscal 1993.

- Research and development expenditures, excluding capitalized software, were $65.2 million (14% of revenue) in fiscal 1995, $56.2 million (14% of revenue) in fiscal 1994

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and $51.5 million (15% of revenue) in fiscal 1993.

- The majority of Autodesk's basic research and product development has been performed in the U.S., while translation and localization of foreign versions is generally performed by development teams or contractors in the local market.

- During fiscal 1993, Autodesk centralized its European product-related functions, including software development, localization, quality assurance, technical publications and production in a new software center in Neuchatel (Switzerland).

- Direct commissions paid to dealers were $10.7 million, $13.1 million and $14.6 million for fiscal 1995, 1994 and 1993, respectively.

Interim Results

Net revenue for the three months ending April 30, 1995 reached $138.7 million, compared to $106.6 million for the same period in 1994. Net income for the quarter was $26.0 million, compared to $16.4 million for the same period a year ago. Revenue increases were primarily attributed to new and upgrade sales of AutoCAD Release 12 and AutoCAD Release 13.

Market Financials

Autodesk's family of products are targeted to a range of users, including mechanical, structural and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; multimedia, entertainment, video and game designers; and educators.

Substantially all of Autodesk's European, Asia/Pacific and U.S. export sales are made to dealers and distributors.

- In the U.S., sales to dealers and distributors accounted for approximately 57% of U.S. revenue in fiscal 1995 revenue and 59% of U.S. revenue in fiscal 1994 and 1993.

- Prior to the introduction of AutoCAD Release 13 in the fourth quarter, fiscal 1995 revenue growth had been moderate or flat in the principal domestic sales changes with the most significant increases being in the dealer and educational sales channels.

Revenue Analysis by Product Line

One hundred percent of Autodesk's fiscal 1995 revenue was derived from the sale of its applications software products.

- Approximately 95% ($441.3 million) of revenue came from design automation products and 5% ($24.0 million) from multimedia products and other products.

- Sales of AutoCAD and AutoCAD updates accounted for approximately 80%, 85% and 86% of Autodesk's revenue in fiscal 1995, 1995 and 1993, respectively.

Geographic Markets

Approximately 39% of Autodesk's fiscal 1995 revenue was derived from the U.S. and the remaining 61% from foreign sources, including exports and foreign subsidiaries. A three-year financial summary by geographic market appears on the following page:

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Autodesk, Inc.
Three-Year Financial Summary
($ Millions)

	Fiscal Year					
	1/95		1/94		1/93	
Geographic Market	$	Percent of Total	$	Percent of Total	$	Percent of Total
Revenue						
• U.S.	$182.1	39%	$177.8	42%	$159.4	43%
• Exports (a)	67.2	15%	54.5	13%	31.3	9%
• Royalties (b)	48.5	10%	48.1	12%	39.6	11%
• Europe (c)	159.1	34%	138.3	33%	135.0	37%
• Asia Pacific (c)	56.9	12%	48.1	12%	42.0	11%
(Eliminations)	(48.5)	(10%)	(48.1)	(12%)	(39.6)	(11%)
Total	$465.3	100%	$418.7	100%	$367.7	100%
Income from operations						
• Americas	$71.5	67%	$56.1	63%	$36.4	54%
• Europe (c)	25.1	23%	24.7	27%	16.8	29%
• Pacific Basin (c)	10.8	10%	8.9	10%	10.0	17%
Total	$107.4	100%	$89.7	100%	$63.2	100%

(a) Includes export revenue to Canada of $15.7 million, $16.2 million and $11.1 million and export revenue to the Asia/Pacific of $36.5 million, $26.8 million and $12.7 million for fiscal 1995, 1994 and 1993, respectively.

(b) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(c) Represents the operations of Autodesk's foreign subsidiaries.

Fiscal 1995 revenues increased in all of Autodesk's major geographic markets over the prior fiscal year.

- Revenues increased by 25%, 15%, and 4% in the Asia/Pacific, Europe and the Americas, respectively, compared to fiscal 1994 growth in these regions of 37%, 1% and 17%.
- The weaker value of the dollar, relative to international currencies, favorably affected fiscal 1995 revenues by approximately $12 million compared to fiscal 1994.

Employees

As of January 31, 1995 Autodesk had 1,788 full-time employees (1,209 in North America, 416 in Europe, and 163 in the Asia/Pacific region), segmented as follows:

Marketing, sales, and product support	830
Software development	403
Quality assurance	104
Production	102
General and administrative	349
	1,788

As of June 1995, Autodesk had approximately 1,800 employees.

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Acquisitions/Divestitures

During fiscal 1994, Autodesk made two acquisitions for an aggregate cash purchase price of $6.5 million.

- In November 1993, Autodesk acquired Woodbourne, Inc. of Lake Oswego (OR). Woodbourne, with approximately five employees, was an Autodesk third-party developer that developed and marketed a 2D constraint-based sketcher product.

- In August 1993, Autodesk acquired the remaining outstanding shares of Ithaca Software of Alameda (CA). Ithaca, with approximately 30 employees, provides 2D and 3D graphics software. Its primary product is the HOOPS graphics system.

In October 1992, Autodesk acquired Micro Engineering Solutions, Inc. (MES) of Novi (MI) for approximately $15 million in cash. MES, a leading developer of manufacturing 3D CAD/CAM software, is now part of Autodesk's Mechanical Industry Group.

During fiscal 1994, Autodesk discontinued its scientific modeling and certain low-end graphics products, which no longer fit into its overall business strategy.

During fiscal 1993, Autodesk divested its interest in two companies that no longer fit into Autodesk's business strategy—American Information Exchange Corporation of Palo Alto (CA) and Xanadu Operating Company of Palo Alto (CA). These companies were initially established to provide products to enhance the sharing of information from multiple sources and a variety of formats.

Key Products and Services

Autodesk offers design automation and multimedia products as follows:

Design Automation Products

Autodesk's design automation software products are used in a variety of applications, including mechanical design and engineering, architecture, mapping/GIS, facilities management and civil engineering.

AutoCAD, the worldwide desktop CAD standard, was introduced in November 1982 and continues to be enhanced through regular releases.

- AutoCAD, available in more than 115 countries and 18 languages, automates the design and drafting process by enabling users to interactively create, store and edit a variety of drawings. This drawing information may be exchanged with other applications software, databases and mainframe CAD systems.

- The most current version of AutoCAD, Release 13, was introduced in the U.S. in November 1994. Release 13 incorporates an object-oriented database, an enhanced and fully customizable user interface and a powerful, integrated solid modeler.

- AutoCAD is used in fields ranging from architecture and mechanical design to plant design and mapping. Professionals use AutoCAD for design, modeling, drafting, mapping, rendering and management tasks.

- AutoCAD operates in many major desktop and workstation operating environments, including DOS, Windows, Windows NT and certain UNIX operating systems.

- Because AutoCAD .DWG files are portable across many platforms and operating systems, it is a viable solution for customers

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with multiple computer systems and a need to exchange drawing files in such an environment.

- AutoCAD currently has an installed base in excess of 1.1 million units.

AutoCAD LT for Windows is a low-cost CAD package offering a range of 2D and basic 3D drafting capabilities. The product, which began shipping in the fourth quarter of fiscal 1994, is suited for CAD managers, designers and engineers requiring a powerful, standalone CAD tool, but who do not need the advanced features of AutoCAD.

AutoSketch®, first released in late 1986, is a low-cost, entry-level 2D drawing package used for mechanical, electrical and architectural drawings, technical sketches, desktop publishing line art and for other drafting and design functions. AutoSketch combines CAD with an easy-to-use drawing interface. It is available for Windows and DOS.

AutoCAD Designer works within AutoCAD to provide desktop parametric feature-based solid modeling. It is used by mechanical designers to design component parts, from concept design to production-ready drawings with bidirectional capabilities. AutoCAD Designer resulted from the acquisition of Woodbourne in late 1993.

Advanced Modeling Extension (AME)® 2.1 works with AutoCAD's design and drafting features to provide users with a set of solid modeling tools for constructing, manipulating, and analyzing models.

AutoSurf™ Release 2 provides easy-to-use, 3D surface-modeling tools for use on PCs and UNIX-based engineering workstations. With its integrated 3D wireframe and NURBS technology, AutoSurf brings CAD/CAM capabilities to the desktop with features for 2D and 3D design and detailing and free-form surface modeling.

Aemulus™ and Aemulus*mf*™ software products provide bidirectional file compatibility between AutoCAD and CADAM, a mainframe CAD program.

AutoCAD Data Extension™ (ADE) is an add-on program that incorporates AutoCAD drawings with database records and other documents into one integrated environment. The graphic information created with ADE allows users to locate data within allows AutoCAD drawings based on entity location; properties such as color, layer or linetype; or associated data.

AutoCAD IGES Translator 5.1 provides AutoCAD drawing-data translations for the easy exchange, use and reuse of drawings created on diverse CAD systems.

Autodesk WorkCenter, is a Windows-based system that can be easily customized for managing technical documents and automating workflow for design teams of varying sizes. Its management tools allow users to organize documents according to specific needs; check documents in and out of a secured, multiuser environment; and automatically manage revisions over time.

Autodesk no longer actively markets Generic CADD 6.1, Autodesk Manufacturing Expert™ or Home Series™.

Multimedia Products

Autodesk's multimedia products focus on visualization, animation and simulation software.

3D Studio® is the leading professional 3D animation software package. The product is used to create professional-quality 3D graphics and animations. This PC-based

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product provides a range of modeling, animation and rendering tools that help users create workstation-quality images and animations.

- 3D Studio Release 4, which began shipping in the third quarter of fiscal 1995, is targeted at a diverse group of customers, including video producers and customers involved in multimedia title development, video-game production and applications such as medical visualization.

- This product is suited for animation designers and can be used to create corporate presentations, broadcast animations, industrial design visualizations, crime reenactments, architectural walk-throughs and for education and training.

- Autodesk also offers 3D Studio Plug-In Toolkit, which enables 3D Studio customers and independent application developers to create their own special effects, either for proprietary use or commercial resale to other 3D Studio users.

AutoVision™ provides photorealistic still renderings within AutoCAD software for DOS and Windows.

Autodesk Animator Studio, the Windows-based successor to Animator Pro®, offers a combination of 24-bit 2D paint and animation, digital video and audio tools for creating and editing components of many multimedia applications.

Cyberspace Developer Kit is a complete toolset for 3D modeling, visualization and simulation. It includes a set of object-oriented C++ class libraries to aid in building realtime, PC-based virtual reality applications.

HOOPS is a portable, commercial, 3D graphics technology developed by Ithaca Software. It allows software developers to create interactive 2D and 3D graphics applications and provides a common high-performance interface to major PC and workstation operating systems, window managers and graphic output devices.

Customer and Dealer Support

Autodesk requires each authorized dealer and distributor to provide a professional level of technical support to customers. Dealers and distributors, including owners and franchisees of computer stores, are supported by Autodesk through technical product training, sales training classes and direct telephone support and Autodesk Forum.

Autodesk supports customers with direct-support contracts, in addition to providing technical support through its customer support telephone lines for certain low-cost CAD products. Autodesk also offers direct on-line support to customers who log onto the Autodesk Forum on CompuServe. The three Autodesk Forums are the AutoCAD Forum, the Autodesk Multimedia Forum and the Autodesk Retail Products Forum.

As of January 31, 1995, Autodesk had more than 800 independent authorized Autodesk Training Centers worldwide. These accredited training centers offer in-depth education and training in computer-aided design skills on AutoCAD and other Autodesk products, as well as on related, independently developed software.

Clients

Autodesk has more than three million users of its products worldwide.

A sampling of major clients includes AFC (Sweden), Anshen + Allen, Avondale Industries, Consolidated Edison, Digicon S.A. (Brazil), Japan Airline Co. Ltd., Kansai

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International Airport Co., Marvin Windows, Parker Hannifin, SBB Swiss Federal Railroad Company and Sony Pictures Imageworks.

Marketing and Sales

Autodesk's customer-related operations are divided into three geographic regions—the Americas, Europe and Asia/Pacific. As previously discussed, Autodesk has aligned its internal marketing organization around five key market groups.

Autodesk's products are marketed through a network of domestic and foreign offices, creating a worldwide support and distribution system. Products are sold worldwide in more than 115 countries through authorized dealers, distributors and direct sales.

- The company now has more than 4,300 Authorized Autodesk Dealers and Distributors.

- Dealers and distributors, including both owners and computer store franchisees, are supported by Autodesk and its subsidiaries through technical training, direct telephone support, periodic publications and through the Autodesk Forum.

- Domestically, Autodesk distributes its products primarily through its authorized dealer network. Other domestic sales are made principally to large corporations, governmental agencies, educational institutions and users for certain low-end CAD products.

- Autodesk major accounts programs work with dealers to support companies that are regional, national and international in scope. These services include volume purchase agreements, on-site training and support to large corporate accounts.

- The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

- In August 1993, Autodesk and Cordant, Inc. were awarded a 12-year facilities management contract to supply the Navy Facilities Command (NAVFAC) with design, construction, and management systems through the end of the century.

  - Called the NAVFAC CAD 2 program, it is the largest architectural and engineering CAD effort ever undertaken.

  - Autodesk and Cordant will supply computer-aided design software, hardware and support services. Intergraph also received a contract. The total amount of the two contracts may not exceed $550 million.

- Internationally, substantially all sales are made to dealers and distributors, which are supported by Autodesk's foreign subsidiaries and international sales organizations.

Autodesk works with dealer and distributor sales organizations, computer manufacturers, other software developers, and graphics peripheral manufacturers through cooperative advertising, promotions and trade show presentations.

Autodesk holds annual "Expos" throughout the world. These dedicated trade shows, incorporated within major industry trade shows, highlight the company's products, as well as a number of third-party products. Autodesk also uses mass-marketing, including direct mailings, public relations and advertising in business and trade journals.

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Alliances

To support the growth of third-party developers worldwide whose applications extend and enhance the functionality of Autodesk's products, Autodesk has established the Virtual Corporation Partner Program. This program provides sales, marketing, technical and financial support to Autodesk Strategic Developers.

- To date, more than 2,500 Autodesk Registered Developers worldwide have developed more than 5,000 commercially available add-on applications for Autodesk products.

- Although Autodesk derives no direct revenue from these application developers, the company believes that the availability and use of such add-on products enhances sales opportunities for the company's core products.

The Multimedia Plug-In Partnership extends Autodesk's franchise into the multimedia market. 3D Studio is now sold by more than 700 Authorized Dealers and Distributors and 200 Independent Application Developers provide 3D Studio "plug-in" applications.

Competitors

AutoCAD competitors include Personal Designer and CADDS by Computervision, CADKEY by Cadkey, Inc., MICRO CADAM by CADAM Systems Company and MicroStation by Bentley Systems.

Domestically, Autodesk's mechanical design products compete with Parametric Technology Corporation's Pro/ENGINEER and Pro/JR; the Master Series from Structural Dynamics Research Corporation, ANVIL-5000 by MCS and CATIA and CADAM products offered by Paris-based Dassault Systems and sold by IBM.

Competitors in the data management market include AM Workflow from Cyco's and AutoEDMS from ACS Telecom.

Autodesk also competes in its foreign markets with a number of products offered by foreign-based companies.

Autodesk's primary multimedia products, 3D Studio, AutoVision and Animator Studio, compete with products available on PCs and computer systems offered by Silicon Graphics.

- Products competing with 3D Studio include Lightwave by Newtek and Truespace by Caligari.

- Animator Studio competes with various products, including Painter by Fractal Design and After Effects from Adobe.

- AutoVision software competes with two third-party add-on products— AccuRender from Robert McNeel and RenderStar by RenderStar Technologies.

The Cyberspace Developer Kit competes with Sense8's WorldToolKit and SuperScape VRT3 from Dimension Ltd.

Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

INPUT Assessment

Autodesk's strengths include its strong CAD software offerings, including AutoCAD, the worldwide de facto CAD standard. Building on the strength of AutoCAD, Autodesk has developed an integrated, diverse family of products to serve the needs of customers throughout the design automation and multimedia markets.

During 1993, Autodesk surpassed IBM to become the world's number one design

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IT 2000™

INPUT®

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1994

Autodesk, Inc.

Chairman,
President & CEO: Carol A. Bartz
2320 Marinship Way
Sausalito, CA 94965
Phone: (415) 332-2344
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Autodesk®

Status:	Public
Employees:	1,788
Revenue:	$ 418,720,000
Fiscal Year End:	1/31/94

Key Points

- Autodesk is the world's number one supplier of design automation software and a leading provider of multimedia software, with more than two and one-half million customers worldwide. The company believes that its principal software products—AutoCAD®, AutoCAD® LT and AutoSketch® —are the world's most widely used general-purpose computer aided-design (CAD) software products.
- In November 1993, Autodesk released AutoCAD LT, a low-cost, Windows-based CAD package aimed at architects, designers and engineers who need a design tool but do not require AutoCAD's advanced features.
- Autodesk management believes that revenues the first half of fiscal 1995 will be negatively impacted by an anticipated slowdown in AutoCAD sales and related updates as Release 12 (introduced in June 1992) nears the end of its product life cycle. AutoCAD Release 13 is currently scheduled for availability late in the quarter ending October 31, 1994.
- In November 1993, Autodesk acquired Woodbourne, Inc., expanding AutoCAD's capabilities to include parametric feature-based solid modeling.

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Autodesk is a registered trademark of Autodesk, Inc.

- During fiscal 1994, Autodesk discontinued its scientific modeling and certain low-end graphics products, which no longer fit into its overall business strategy.

- In August 1993, Autodesk and Cordant, Inc. were awarded a 12-year facilities management contract to supply the Navy Facilities Command with design, construction and management systems through the end of the century.

Company Description

Autodesk, incorporated in April 1982, develops, markets and supports a family of design automation and multimedia software products for personal computers and workstations.

Autodesk's customer base totals more than two and a half million users who are supported either through a network of authorized dealers or directly by the company. Autodesk's principal product, AutoCAD, has an installed base of more than one million seats worldwide.

Operations and Structure

Autodesk is organized into several groups as follows:

- Core Technologies focuses on developing core tools, such as graphical engines and visualization technologies.

- Product Development focuses on developing specific software products.

- Marketing focuses on Autodesk's targeted vertical markets through various units as follows:

  - The Mechanical Industry Group, formed from the acquisition of Micro Engineering Solutions, Inc. in fiscal 1993, focuses on the mechanical CAD (MCAD) market. This division offers products that use 3D, free-form surfacing technology for mechanical design and manufacturing applications in various industries, including the automotive and consumer products sectors.

  - The AEC/FM Industry Group addresses Autodesk's traditional architectural, engineering, construction and facilities management markets.

  - The Mapping Geographical Information Systems (GIS) and Infrastructure Group targets municipalities, utility companies and agricultural or environmental organizations.

  - The Process and Power Group addresses the needs of customers designing complex facilities such as oil refineries and power generation plants.

- The Emerging Businesses Group provides a development environment in which to create new products that complement design automation and support new market opportunities.

  - The Multimedia Division offers products that address a range of animation, simulation and visualization capabilities for the PC.

- Autodesk is organized geographically into three sales regions—the Americas, Europe and Asia/Pacific.

U.S. offices are in Atlanta (GA), Bothell (WA), Chicago (IL), Cincinnati (OH), Dallas (TX), Florham Park (NJ), Milwaukee (WI), Novi (MI) and Reston (VA).

Foreign subsidiaries/offices are located as follows:

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- *Canada*—Burnaby (British Columbia), Calgary (Alberta) and Markham (Ontario)
- *Latin America*—Brazil, Chile, Mexico, Venezuela
- *Europe*—Austria, Czechia, France, Germany, Hungary, Israel, Italy, Netherlands, Portugal, Russia, Spain, Sweden, Switzerland, the U.K., Africa
- *Asia/Pacific*—Australia, China, Hong Kong, India, Japan, Korea, Singapore, Taiwan

Company Strategy

Autodesk's long-term strategy is to create an interoperable family of design automation software products to address the entire product development process—from rough concept to final production and maintenance.

- The strategy takes advantage of Autodesk's core technologies and open systems approach to its four primary target markets—AEC; mechanical design and manufacturing; mapping, geographical information systems (GIS); and visualization.
- Autodesk has established a second major area of activity, Emerging Businesses, to provide a development environment to create new products that complement design automation and support new market opportunities in visualization, animation and simulation.

Autodesk's strategy also includes maintaining an open architecture on its products to facilitate third-party development of peripheral and complementary products.

During fiscal 1993, Autodesk made substantial worldwide investments in product development, marketing and infrastructure to position the company for future growth. This included . expansion and strengthening of the company's reseller channel, more rapid delivery of localized products and the establishment of new subsidiary offices around the world.

Financials

Fiscal 1994 revenues reached $418.7 million, a 14% increase over fiscal 1993 revenue of $367.7 million. Net income rose 42%, from $43.9 million in fiscal 1993 to $62.2 million in fiscal 1994. A five-year financial summary follows:

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Autodesk, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

Item	Fiscal Year 1/94	1/93	1/92	1/91	1/90
Revenue	$418.7	$367.7	$284.9	$237.9	$178.6
• Percent change from previous year	14%	29%	20%	33%	52%
Income before taxes	$96.8	$69.8	$92.3	$92.0	$76.4
• Percent change from previous year	39%	(24%)	--	20%	41%
Net income	$62.2	$43.9	$57.8	$56.8	$46.4
• Percent change from previous year	42%	(24%)	2%	22%	42%
Earnings per share	$2.50	$1.76	$2.31	$2.30	$1.91
• Percent change from previous year	42%	(24%)	--	20%	42%

Autodesk management attributes revenue growth in fiscal 1994 primarily to strong worldwide sales of the company's AutoCAD product.

- The most current release, AutoCAD Release 12, was introduced during mid-fiscal 1993. Revenue from new AutoCAD licenses increased approximately 20%, while update revenue increased approximately 27% as AutoCAD Release 12 nears the end of its product life cycle.

- Revenue from Emerging Businesses, which primarily consists of multimedia products, reached $20.1 million, a 22% increase over fiscal 1993 revenue of $16.5 million. This increase primarily resulted from new and update sales of Autodesk 3D Studio® Release 3 and sales of AutoVision™, which began shipping late in the third fiscal quarter.

Net income was 15% of revenue in fiscal 1994, compared to 12% of revenue in fiscal 1993.

While marketing and sales expenses were 34% of revenue for both years, general, administrative and research and development expenses represented a smaller percent of revenue in fiscal 1994.

- General and administrative expenses were $58.5 million (14% of revenue) in fiscal 1994, $60.0 million (17% of revenue) in fiscal 1993 and $37.3 million (14% of revenue) in fiscal 1992. Fiscal 1993 results were negatively impacted by various one-time charges totaling $10.5 million.

- Research and development expenditures, excluding capitalized software, were $56.2 million (14% of revenue) in fiscal 1994, $51.5 million (15% of revenue) in fiscal 1993 and $34.8 million (13% of revenue) in fiscal 1992.

- The majority of Autodesk's basic research and product development has been performed in the U.S., while translation and localization of

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foreign versions is generally performed by development teams or contractors in the local market.

- During fiscal 1993, Autodesk centralized its European product-related functions, including software development, localization, quality assurance, technical publications and production in a new software center in Neuchatel (Switzerland).

- Direct commissions paid to dealers were $13.1 million, $14.6 million, $10.9 million, $7.4 million and $5.1 million for fiscal 1994, 1993, 1992, 1991 and 1990, respectively.

Interim Results:

Revenue for the three months ending April 30, 1994 reached $106.6 million, compared to $101.7 million for the same period in 1993. Net income for the quarter was $16.4 million, compared with $15.4 million for the same period a year ago.

- Revenue increases were primarily attributed to continued strong sales of AutoCAD Release 12 and AutoCAD LT, as well as adjacent products such as AutoCAD Designer, AutoSurf Release 2, AutoVision and ADE.

- Product sales were especially strong in the Asia/Pacific region, where revenues increased by more than 35% over the same period last year.

- Emerging economies, such as Eastern Europe and Latin America, where Autodesk products are used in long-term infrastructure-based projects to improve roadways, water systems and overall facilities, also showed good revenue growth.

Market Financials

Autodesk's family of products are targeted to a broad range of users, including mechanical, structural, and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; multimedia, entertainment, video, and game designers; and educators.

Substantially all of Autodesk's European, Asia/Pacific and U.S. export sales are made to dealers and distributors and sales to dealers and distributors accounted for approximately 59% of U.S. revenue in fiscal 1994 and 1993 and 56% of U.S. revenue in fiscal 1992. Revenue growth was achieved in all domestic sales channels, most notably in the dealer sales channel and educational sales channel.

Revenue Analysis by Product Line:

One hundred percent of Autodesk's fiscal 1994 revenue was derived from the sale of its applications software products.

- Approximately 95% ($398.6 million) of revenue came from design automation products and 5% ($20.1 million) from multimedia products and other product offerings of the Emerging Businesses Group.

- Sales of AutoCAD and AutoCAD updates accounted for approximately 85%, 86% and 90% of Autodesk's revenue in fiscal 1994, 1993 and 1992, respectively.

Geographic Markets

Approximately 42% of Autodesk's fiscal 1994 revenue was derived from the U.S. and the remaining 58% from foreign sources, including exports and foreign subsidiaries. A three-year financial summary by geographic market follows:

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Autodesk, Inc.
Three-Year Financial Summary
($ Millions)

	Fiscal Year					
	1/94		1/93		1/92	
Geographic Market	$	Percent of Total	$	Percent of Total	$	Percent of Total
Revenue						
• U.S.	$177.8	42%	$159.4	43%	$118.1	41%
• Exports (a)	54.5	13%	31.3	8%	20.2	7%
• Royalties (b)	48.1	12%	39.6	11%	29.1	10%
• Europe (c)	138.3	33%	135.0	37%	107.9	38%
• Asia Pacific (c)	48.1	12%	42.0	11%	38.7	14%
(Eliminations)	(48.1)	(12%)	(39.6)	(11%)	(29.1)	(10%)
Total	$418.7	100%	$367.7	100%	$284.9	100%
Income from operations						
• Americas	$56.1	63%	$31.4	54%	$39.6	49%
• Europe (c)	24.7	27%	16.8	29%	27.5	34%
• Pacific Basin (c)	8.9	10%	10.0	17%	13.1	16%
Total	$89.7	100%	$58.2	100%	$80.0	100%

(a) Includes export revenue to Canada of $16.2 million, $11.1 million and $7.6 million and export revenue to the Asia/Pacific of $26.8 million, $12.7 million and $8.3 million for fiscal 1994, 1993 and 1992, respectively.

(b) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(c) Represents the operations of Autodesk's foreign subsidiaries.

Fiscal 1994 revenues increased in all of Autodesk's major geographic markets over the prior fiscal year.

- Revenues increased by 37%, 17%, and 1% in the Asia Pacific, the Americas and Europe, respectively, compared to fiscal 1993 growth in these regions of 17%, 37%, and 25%.
- Revenue growth in the U.S. market was due to the introduction of new products, stronger major-accounts penetration and an expanded regional office presence.
- Internationally, growth was due to an expanded field organization, improved technical support, stronger independent application developer relationships and the availability of more software translations. International revenue growth would have been more significant were it not for the changes in foreign currency exchange rates, particularly in Europe, that reduced consolidated net revenues by more than $13 million.

Employees

As of January 31, 1994 Autodesk had 1,788 full-time employees (1,188 in North America, 435 in Europe, and 165 in the Asia/Pacific region), segmented as follows:

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Marketing, sales, and product support	777
Software development	504
Quality assurance	80
Production	86
General and administrative	341
	1,788

- As of June 1994, Autodesk had approximately 1,770 employees.

Acquisitions/Divestitures

During fiscal 1994, Autodesk made two acquisitions for an aggregate cash purchase price of $6.5 million.

- In November 1993, Autodesk acquired Woodbourne, Inc. of Lake Oswego (OR). Woodbourne, with approximately five employees, was an Autodesk third-party developer that developed and marketed a 2D constraint-based sketcher product.

- In August 1993, Autodesk acquired the remaining outstanding shares of Ithaca Software of Alameda (CA). Ithaca, with approximately 30 employees, provides 2D and 3D graphics software. Its primarily product is the HOOPS graphics system.

In October 1992, Autodesk acquired Micro Engineering Solutions, Inc. (MES) of Novi (MI) for approximately $15 million in cash. MES, a leading developer of manufacturing 3D CAD/CAM software, is now part of Autodesk's Mechanical Industry Group.

During fiscal 1994, Autodesk discontinued its scientific modeling and certain low-end graphics products, which no longer fit into its overall business strategy.

During fiscal 1993, Autodesk divested its interest in two companies that no longer fit into Autodesk's business strategy—American Information Exchange Corporation of Palo Alto (CA) and Xanadu Operating Company of Palo Alto (CA). These companies were initially established to provide products to enhance the sharing of information from multiple sources and a variety of formats.

Key Products and Services

Autodesk offers CAD and multimedia products as follows:

CAD Products:

Autodesk's CAD software products are used in a variety of applications, including mechanical design and engineering, architecture, mapping/GIS, facilities management, civil engineering and process and power.

AutoCAD, the worldwide desktop CAD standard, was introduced in November 1982 and continues to be enhanced through regular releases.

- AutoCAD, available in 88 countries and 18 languages, automates the design and drafting process by enabling users to interactively create, store and edit a variety of drawings. This drawing information may be exchanged with other applications software, databases, and mainframe CAD systems.

- The most recent version of AutoCAD, Release 12, was introduced in the U.S. in June 1992. AutoCAD Release 13 is currently scheduled for release late in the quarter ending October 31, 1994.

- AutoCAD is used in a variety of applications, including facilities management, mechanical

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computer-aided design (MCAD), architecture, engineering, and construction (AEC), geographic information systems (GIS) and plant design.

- AutoCAD operates in many major desktop and workstation operating environments, including MS-DOS, Microsoft Windows, Sun Microsystems' Solaris, Silicon Graphics' IRIX, IBM's AIX on RS/6000, Hewlett-Packard's HP-UX and the Apple Macintosh.

AutoCAD LT is a low-cost, Windows-based CAD package offering a range of 2D and basic 3D drafting capabilities. The product, which began shipping in the fourth quarter of fiscal 1994, is suited for architects, designers, engineers, field professionals and managers requiring a powerful, standalone CAD tool, but who doe not need the advanced features of AutoCAD.

AutoSketch[R], first released in late 1986, is a low-cost, entry-level 2D drawing package used for mechanical, electrical and architectural drawings, technical sketches, desktop publishing line art and for other drafting and design functions. AutoSketch combines CAD with an easy-to-use drawing interface. It is available for Windows and DOS.

AutoCAD Designer works within AutoCAD to provide desktop parametric feature-based solid modeling. It is used by mechanical designers to design component parts, from concept design to production-ready drawings with bidirectional capabilities. AutoCAD Designer resulted from the acquisition of Woodbourne in late 1993.

Advanced Modeling Extension (AME)[R] 2.1 works with AutoCAD's design and drafting features to provide users with a set of solid modeling tools for constructing, manipulating, and analyzing models.

Generic CADD 6.1 is a low-cost two-dimensional CAD software package for PCs, laptops, and portables that automates the design and production drafting processes in a standalone environment. The newest version has the capability of reading and writing 2D AutoCAD.DWG files.

AutoSurf™ provides free-form non-Uniform rational B-Spine (NURBS) surface technology within a special modeling optimized version of AutoCAD Release 12 for the design of complex mechanical component parts such as consumer products, automotive products and tooling. The product brings CAD/CAM capabilities to the desktop with features for 2D and #D design and detailing and free-form surface modeling.

Autodesk ManufacturingExpert™ is bundled with AutoCAD to provide advanced surface-modeling technology and 2- to 5-axis numerical control (NC) part programming to solve design and machining problems.

Aemulus™ and Aemulus*mf*™ software products provide bidirectional file compatibility between AutoCAD and CADAM, a mainframe CAD program.

AutoCAD Data Extension™ (ADE) is an add-on program that allows users to simultaneously access multiple AutoCAD drawings in a single AutoCAD session; select and work with subsets of data; and work simultaneously with other users on the same drawings. With ADE, users can also link AutoCAD drawings with other applications and external databases using SQL statements.

AutoCAD IGES Translator 5.1 provides AutoCAD drawing-data translations for the easy

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exchange, use and reuse of drawings created on diverse CAD systems.

Home Series™ is a line of easy-to-use design programs--HOME™, KITCHEN/BATH™, LANDSCAPE™ and DECK™--that provides home hobbyists with design tools to create detailed building plans, including accurate room measurements, square footage calculations and plan notes in architectural style lettering.

Emerging Businesses Group:

Under the Emerging Businesses Group, the Multimedia Division addresses markets focusing on visualization, animation and simulation.

3D Studio® is the leading professional 3D animation software package. The product is used to create realistic 3D models, images and animations on 386/486/Pentium-based PCs and is also used by designers and drafters to visualize and animate 3D AutoCAD designs.

- 3D Studio Release 3, which began shipping in the third quarter of fiscal 1994, is targeted at a diverse group of customers, including video producers and customers involved in multimedia title development, game production and applications such as medical visualization.

- This product is suited for animation designers and can be used to create corporate presentations, broadcast animations, industrial design visualizations, crime reenactments, architectural walk-throughs and for education and training.

AutoVision™ provides photorealistic still renderings within AutoCAD Release 12 for DOS and Windows.

Animator Pro®, a complementary product for 3D Studio, is the leading 2D paint and animation package on the PC, with feature-resolution display, imaging and animation capabilities for on-screen playback and desktop video applications.

Cyberspace Developer Kit is a complete toolset for 3D modeling, visualization and simulation. It includes a set of object-oriented C++ class libraries to aid in building realtime, PC-based virtual reality applications.

HOOPS is a portable, commercial, 3D graphics technology developed by Ithaca Software. It allows software developers to create interactive 2D and 3D graphics applications and provides a common high-performance interface to major PC and workstation operating systems, window managers and graphic output devices.

Customer and Dealer Support:

Autodesk requires each authorized dealer and distributor to provide a professional level of technical support to customers. Dealers and distributors, including owners and franchisees of computer stores, are supported by Autodesk through technical product training, sales training classes, direct telephone support and Autodesk Forum, an electronic bulletin board on the CompuServe network.

Autodesk supports customers with direct-support contracts, as well as through user groups and the Autodesk Forum.

As of January 31, 1994, Autodesk had more than 750 independent authorized Autodesk Training Centers worldwide. These accredited training centers offer in-depth education and training in computer-aided design skills on AutoCAD and other Autodesk products.

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In addition, Autodesk provides technical support through its customer support telephone lines for certain low-cost CAD products.

Marketing and Sales Alliances

Autodesk's customer-related operations are divided into three geographic regions—the Americas, Europe and Asia/Pacific. Products are marketed through a network of domestic and foreign offices, creating a worldwide support and distribution system.

Autodesk's products are sold worldwide in more than 88 countries through authorized dealers, distributors and direct sales.

- Domestically, Autodesk distributes its products primarily through its authorized dealer network. Other domestic sales are made principally to large corporations, governmental agencies and educational institutions.

- Autodesk major accounts programs work with dealers to support companies that are regional, national and international in scope. These services include volume purchase agreements, on-site training and support to large corporate accounts.

- The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

- In August 1993, Autodesk and Cordant, Inc. were awarded a 12-year facilities management contract to supply the Navy Facilities Command (NAVFAC) with design, construction, and management systems through the end of the century.

  - Called the NAVFAC CAD 2 program, it is the largest architectural and engineering CAD effort ever undertaken.

  - Autodesk and Cordant will supply computer-aided design software, hardware and support services. Intergraph also received a contract. The total amount of the two contracts may not exceed $550 million.

- Internationally, substantially all sales are made to dealers and distributors, which are supported by Autodesk's foreign subsidiaries and international sales organizations.

Autodesk works with other software developers, computer manufacturers and graphics peripheral manufacturers through cooperative advertising, promotions and trade show presentations.

Autodesk also uses mass-marketing, including direct mailings, public relations and advertising in business and trade journals.

Autodesk has more than 2,000 third-party developers that have created more than 4,500 applications to customize AutoCAD to a broad range of markets.

Competitors

AutoCAD competitors include Personal Designer and CADDS by Computervision, CADKEY by Cadkey, Inc., MicroCADAM by Altium (IBM) and MicroStation by Bentley Systems.

Autodesk's design automation products also compete with Parametric Technology Corporation's Pro/ENGINEER, the Master Series from Structural Dynamics Research Corporation, ANVIL-5000 by MCS and CATIA from Dassault Systems.

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Autodesk also competes in its foreign markets with a number of products offered by foreign-based companies.

Autodesk's primary multimedia products, 3D Studio and Animator Pro compete with products available on the Apple Macintosh and Amiga computers. 3D Studio Release 3 also competes with a much costlier graphics system from Silicon Graphics.

AutoVision competes with two third-party AutoCAD add-on products—AccuRender from Robert McNeel and ARE-24 by Ketiv, Inc.

The Cyberspace Developer Kit competes with Sense8's WorldToolKit and SuperScape VRT3 from Dimension Ltd.

Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

INPUT Assessment

Autodesk's strengths include its strong CAD software offerings, including AutoCAD, the worldwide de facto CAD standard. Building on the strength of AutoCAD, Autodesk has developed an integrated, diverse family of products to serve the needs of customers throughout the design automation and multimedia markets.

During 1993, Autodesk surpassed IBM to become the world's number one design automation software supplier. The company claims to also have 60% of the PC animation software market.

Autodesk also has a strong network of partners called the "Autodesk Virtual Corporation." This network is comprised of more than 4,200 resellers, more than 2,000 third-party developers, 750 training centers and approximately 300 user groups. The Autodesk Virtual Corporation allows the company to leverage the strength of each of its partners and extend its presence across markets and geographies.

Key challenges for Autodesk include continuing to grow the company faster than the industry through strategic market and geographic growth.

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INPUT

COMPANY
PROFILE

AUTODESK, INC.
2320 Marinship Way
Sausalito, CA 94965
Phone: (415) 332-2344
Fax: (415) 331-8093

Chairman, President, and CEO:	Carol A. Bartz
Status:	Public Corporation
Stock Exchange:	NASDAQ
Total Employees:	1,565
Total Revenue:	$353,154,000
Fiscal Year End:	1/31/93

Key Points

- Autodesk, the world's leading supplier of desktop computer-aided design software, achieved its first $100 million revenue quarter ever for the quarter ending April 30, 1993.
- During fiscal 1993, Autodesk made substantial worldwide investments in product development, marketing, and infrastructure to position the company for future growth. This included expansion and strengthening of the company's reseller channel, more rapid delivery of localized products, and the establishment of new subsidiary offices around the world.
- In early 1993, Autodesk began shipping AutoCAD Release 12 for Windows, the Windows version of its flagship DOS-based design and drafting product, at a price of $3,750. AutoCAD Release 12 for the Macintosh also shipped in 1993.
- Autodesk expanded its vertical market focus to mechanical design and manufacturing with the acquisition of Micro Engineering Solutions, Inc. in October 1992.
- In August 1993, Autodesk and Cordant, Inc. were awarded a 12-year facilities management contract to supply the Navy Facilities Command with design, construction, and management systems through the end of the century.
- During fiscal 1993, Autodesk divested itself of two businesses (American Information Exchange and Xanadu) unrelated to its core technologies.

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Company Description

Autodesk, incorporated in December 1982, designs, develops, markets and supports a family of computer-aided design and drafting (CAD) software products for desktop computers and workstations. The company also offers software products in the multimedia, scientific modeling, and retail products markets.

Autodesk's customer base totals more than 2 million users who are supported either directly by the company or through a network of authorized dealers. The company's principal product, AutoCAD[R], has an installed base of 889,000 seats worldwide.

Strategy

Autodesk's long-term strategy is to create an interoperable family of design automation software products to address the entire product development process--from rough concept to final production and maintenance.

- Design automation extends Autodesk's traditional design applications into other phases of the design continuum, such as computer-aided manufacturing and 3D modeling.
- The strategy takes advantage of Autodesk's core technologies and open systems approach to its four primary target markets--mechanical design and manufacturing; mapping, geographical information systems (GIS), and infrastructure; process and power; and facilities design, construction, and management.
- Autodesk has established a second major area of activity, Emerging Businesses, to provide a development environment to create new products that complement design automation and support new market opportunities in visualization, animation, and simulation.

Autodesk's strategy includes maintaining an open architecture on its products to facilitate third-party development of peripheral and complementary products.

Financials

Fiscal 1993 revenue reached nearly $367.7 million, a 29% increase over fiscal 1992 revenue of $284.9 million. Net income declined 24%, from $57.8 million in fiscal 1992 to $43.9 million in fiscal 1993. A five-year financial summary follows:

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AUTODESK, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	1/93	1/92	1/91	1/90	1/89
Revenue	$367.7	$284.9	$237.9	$178.6	$117.3
· Percent increase from previous year	29%	20%	33%	52%	48%
Income before taxes	$69.8	$92.3	$92.0	$76.4	$54.2
· Percent increase (decrease) from previous year	(24%)	–	20%	41%	55%
· Gross margin	19%	32%	39%	43%	46%
Net income	$43.9	$57.8	$56.8	$46.4	$32.7
· Percent increase (decrease) from previous year	(24%)	2%	22%	42%	59%
· Net margin	12%	20%	24%	26%	28%
Earnings per share	$1.76	$2.31	$2.30	$1.91	$1.35
· Percent increase (decrease) from previous year	(24%)	–	20%	41%	52%

Autodesk management attributes revenue growth in fiscal 1993 primarily to strong worldwide sales of the company's AutoCAD product.

- The most current release, AutoCAD Release 12, was introduced during mid-fiscal 1993. Revenue from new AutoCAD licenses increased approximately 15%, while update revenue increased approximately 113% due to strong demand for AutoCAD Release 12 by existing users.

- Revenue from products sold to the multimedia, scientific modeling, and retail products markets increased by approximately 76% during fiscal 1993. This increase resulted from the release of new and enhanced products, including 3D Studio, AutoSketch, Generic CADD, and the Home Series.

Declines in net income during fiscal 1993 were attributed to:

- A 45% increase in marketing and sales expenses related to planned spending to promote new and enhanced products, including

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AutoCAD Release 12, as well as increased headcount associated with worldwide expansion into new markets.

- A 61% increase in general and administrative expenses due to higher personnel costs to support the company's increased operations and infrastructure and one-time charges of $5 million for the settlement of a class-action suit; a $3 million charge associated with the divestiture of two companies that comprised Autodesk's Information Systems Division; $1.4 million to centralize its European production facility in Switzerland; and charges of $1.1 million for cancelling an agreement to purchase land in Northern California

Research and development expenditures, including capitalized software, were $51.5 million (14% of revenue) in fiscal 1993, $34.8 million (13% of revenue) in fiscal 1992, and $27.8 million (12% of revenue) in fiscal 1991.

- The majority of Autodesk's basic research and product development has been performed in the U.S., while translation and localization of foreign versions is generally performed by development teams or contractors in the local market.

- During fiscal 1993, Autodesk centralized its European product-related functions, including software development, localization, quality assurance, technical publications and production in a new software center in Neuchatel (Switzerland).

Revenue for the six months ending July 31, 1993 reached $205.3 million, a 28% increase over $160.8 million for the same period in 1992. Net income rose 61%, from $19.9 million to over $31.9 million.

- Revenue increases were primarily attributed to continued strong worldwide growth in new sales of AutoCAD, particularly in the Americas and Asia/Pacific regions.

Market Financials

One hundred percent of Autodesk's fiscal 1993 revenue was derived from the sale of its applications software products.

- Sales of AutoCAD and AutoCAD updates accounted for approximately 86%, 90%, and 88% of Autodesk's revenue in fiscal 1993, 1992, and 1991, respectively.

- The remainder of revenue was derived from the company's other CAD, multimedia products, scientific modeling, and retail products.

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Autodesk's family of products are targeted to a broad range of users, including mechanical, structural, and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; multimedia, entertainment, video, and game designers; and educators.

Geographic Markets

Approximately 43% of Autodesk's fiscal 1993 revenue was derived from the U.S. and the remaining 57% from foreign sources, including exports and foreign subsidiaries. A three-year financial summary by geographic market follows:

AUTODESK, INC.
THREE-YEAR GEOGRAPHIC SUMMARY
($ millions)

	FISCAL YEAR					
	1/93		1/92		1/91	
GEOGRAPHIC MARKET	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL
Revenue						
· U.S.	$159.4	43%	$118.1	41%	$105.9	44%
· Exports (a)	31.3	8%	20.2	7%	20.5	9%
· Royalties (b)	39.6	11%	29.1	10%	22.3	9%
· Europe (c)	135.0	37%	107.9	38%	81.4	34%
· Asia/Pacific (c)	42.0	11%	38.7	14%	30.1	13%
(Eliminations)	(39.6)	(11%)	(29.1)	(10%)	(22.3)	(9%)
TOTAL	**$367.7**	**100%**	**$284.9**	**100%**	**$237.9**	**100%**
Income from operations						
· Americas	$31.4	54%	$39.6	49%	$49.8	61%
· Europe (c)	16.8	29%	27.5	34%	21.5	27%
· Pacific Basin (c)	10.0	17%	13.1	16%	9.6	12%
TOTAL	**$58.2**	**100%**	**$80.2**	**100%**	**$80.9**	**100%**

(a) Includes export revenue to Canada of $11.1 million, $7.6 million, and $9.1 million, and export revenue to the Asia/Pacific of $12.7 million, $8.3 million, and $8.4 million, for fiscal 1993, 1992, and 1991, respectively.

(b) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(c) Represents the operations of Autodesk's foreign subsidiaries.

Fiscal 1993 revenues increased in all of Autodesk's major geographic markets over the prior fiscal year. Revenues increased by 37%, 25%, and 17% in the Americas, Europe, and Asia/Pacific, respectively, compared to fiscal 1992 growth in these regions of 10%, 32%, and 28%.

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Operations/ Structure

During fiscal 1993, Autodesk was reorganized into two groups, the Design Automation Group and the Emerging Business Group.

The Design Automation Group absorbed the former AutoCAD Division, organizing around both core technologies and major customer application markets.

- Core Technologies focuses on developing core tools, such as graphical engines and visualization technologies.
- Product Development focuses on developing specific software products.
- Design Automation focuses on Autodesk's targeted vertical markets through various divisions as follows:
  - The Autodesk Mechanical Division, formed from the acquisition of Micro Engineering Solutions, Inc in fiscal 1993, focuses on the mechanical CAD (MCAD) market. This division offers products that use 3D, free-form surfacing technology for mechanical design and manufacturing applications in various industries, including the automotive and consumer products sectors.
  - The AEC/FM Division addresses Autodesk's traditional architectural, engineering, construction, and facilities management markets.
  - The Geographical Information Systems (GIS) and Infrastructure Division targets municipalities, utility companies, and agricultural or environmental organizations.
  - The Process and Power Division addresses the needs of customers designing complex facilities such as oil refineries and power generation plants.
- The Emerging Business Group provides a development environment in which to create new products that complement design automation and support new market opportunities and addresses markets focusing on visualization, animation, simulation, and molecular modeling.
  - The Multimedia Division offers products that address a range of animation and visualization capabilities for the PC.
  - The Scientific Modeling Division provides PC and workstation software for desktop computational chemistry and analysis.

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U.S. offices are in Atlanta (GA), Bothell (WA), Chicago (IL), Dallas (TX), Florham Park (NJ), Milwaukee (WI), Novi (MI), and Vienna (VA).

Foreign subsidiaries are located in Australia, Austria, Canada, Czech Republic, France, Germany, Hong Kong, Hungary, Italy, Japan, the Netherlands, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan, the U.K., and Russia-C.I.S.

Employees

As of January 31, 1993 Autodesk had 1,565 full-time employees (1,053 in North America, 382 in Europe, and 130 in the Asia/Pacific region), segmented as follows:

Marketing, sales, and product support	752
Software development	318
Quality assurance	84
Production	78
General and administrative	333
	1,565

As of July 31, 1993, Autodesk had 1,680 employees.

Acquisitions/ Divestitures

In October 1992, Autodesk acquired Micro Engineering Solutions, Inc. (MES) of Novi (MI) for approximately $15 million in cash.

- MES is a leading developer of manufacturing 3D CAD/CAM software.
- MES now operates as the Mechanical Division of Autodesk.

During fiscal 1993, Autodesk divested its interest in two companies that no longer fit into Autodesk's business strategy--American Information Exchange Corporation of Palo Alto (CA) and Xanadu Operating Company of Palo Alto (CA). These companies were initially established to provide products to enhance the sharing of information from multiple sources and a variety of formats.

Key Products and Services

Autodesk's products are offered through the Design Automation Group and the Emerging Business Group.

Design Automation Group:

Autodesk's CAD software products are used in a variety of applications, including mechanical design and engineering, architecture,

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mapping/GIS, facilities management, civil engineering, and process and power.

AutoCAD, the worldwide desktop CAD standard, was introduced in November 1982 and continues to be enhanced through regular releases.

- AutoCAD, available in more than 80 countries and 17 languages, automates the design and drafting process by enabling users to interactively create, store, and edit a variety of drawings. This drawing information may be exchanged with other applications software, data bases, and mainframe CAD systems.

- The most recent version of AutoCAD, Release 12, has expanded power, increased speed, enhanced plotting for improved output, extended programmability, and an improved graphical interface.

- AutoCAD is used in a variety of applications, including facilities management; mechanical computer-aided design (MCAD); architecture, engineering, and construction (AEC); geographic information systems (GIS), and electronic design automation (EDA).

- AutoCAD operates in many major desktop and workstation operating environments, including MS-DOS, 386/DOS-Extender, Sun Microsystems' OpenWindows, DEC's ULTRIX, Silicon Graphics' IRIX, IBM's AIX on RS/6000, and Hewlett-Packard's HP-UX. More recently, AutoCAD was ported to run under Windows, Silicon Graphics' IRIX and HP's HP-UX.

- Autodesk has 2,000 third party developers that have created nearly 4,000 applications to customize AutoCAD to a broad range of markets.

Advanced Modeling Extension (AME)™ 2.1 works with AutoCAD's design and drafting features to provide users with a set of solid modeling tools for constructing, manipulating, and analyzing models.

Generic CADD 6.1 is a low-cost two-dimensional CAD software package for PCs, laptops, and portables that automates both the design and production drafting processes in a standalone environment. The newest version has the capability of reading and writing 2D AutoCAD.DWG files.

AutoSketch®, first released in late 1986, is a low-cost, entry-level 2D drawing program for drafters and designers that combines CAD with an easy-to-use drawing interface. It is available for Windows and DOS.

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Autodesk DesignExpert and Autodesk ManufacturingExpert are offered as two separate bundled packages with AutoCAD. The products enable users to design and manufacture complex parts in 3D, providing a solution for both 2D and 3D design and detailing, free-form surface modeling and 2- through 5-axis numerical control machining.

Home Series™ is a line of easy-to-use design programs--HOME™, KITCHEN™, BATHROOM™, LANDSCAPE™, and DECK™--that provides home hobbyists with design tools to create detailed building plans, including accurate room measurements, square footage calculations, and plan notes in architectural style lettering.

Emerging Business Group:

This unit addresses markets focusing on visualization, animation, simulation, and molecular modeling.

Autodesk 3D Studio is a graphics software package for creating sophisticated 3D models, renderings, and animations on 386/486-based PCs. It is currently the #1 visualization product for PC CAD use.

Autodesk Animator Pro™, a complementary product for Autodesk 3D Studio, is a professional-quality 2D animation and paint program that features resolution displays, imaging, and animation capabilities for on-screen playback and desktop video applications.

HyperChem™ is a PC and workstation-based software package for desktop computer-aided molecular design (CAMD) and analysis. HyperChem can be used to build and display 3D molecular structures, investigate the reactivity of molecules, evaluate chemical pathways and mechanisms, study the behavior of molecules, and construct proteins and nucleic acids.

Other:

Through its Registered Developer programs, Autodesk has over 2,000 third-party software developers worldwide.

As of January 31, 1993, Autodesk had more than 500 independent authorized AutoCAD training centers (ATCs) worldwide. These centers teach users basic, intermediate, and advanced computer-aided design using AutoCAD and other Autodesk products.

Marketing and Sales

Autodesk's products are sold worldwide in over 80 countries using dealers, distributors, and direct marketing methods.

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- Autodesk's distribution network consists of over 4,000 authorized dealers and distributors, including owners of computer stores and computer store franchisees, which are supported by Autodesk and its subsidiaries through technical training, direct telephone support, periodic publications, and CompuServe (with Autodesk Forum).

- Autodesk also works with other software developers, computer manufacturers, and graphics peripheral manufacturers.

Domestically, Autodesk distributes its products primarily through its authorized dealer network. Sales to dealers and distributors accounted for approximately 59%, 56%, and 59% of Autodesk's domestic revenue in fiscal 1993, 1992, and 1990, respectively. The balance of domestic sales is made principally to large corporations, government agencies, and educational institutions.

- Autodesk major accounts programs support companies that are regional, national, and international in scope. These services include volume purchase agreements, on-site training, and support to large corporate accounts.

- The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

- In August 1993, Autodesk and Cordant, Inc. were awarded a 12-year facilities management contract to supply the Navy Facilities Command (NAVFAC) with design, construction, and management systems through the end of the century.

  - Called the NAVFAC CAD 2 program, it is the largest architectural and engineering CAD effort ever undertaken.

  - Autodesk and Cordant will supply computer-aided design software, hardware, and support services. Intergraph also received a contract. The total amount of the two contracts may not exceed $550 million.

Internationally, Autodesk's products are sold primarily by dealers and distributors, which are supported by Autodesk's foreign subsidiaries, and through direct exports from the U.S.

Direct commissions paid to dealers were $14.6 million, $10.9 million, $7.4 million, $5.1 million, and $2.9 million for fiscal 1993, 1992, 1991, 1990, and 1989, respectively.

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Competitors

AutoCAD competitors include Personal Designer and VersaCAD by Computervision, CADKEY by CADKEY, Inc., MicroCADAM, by Altium (IBM), and MicroStation by Intergraph.

Autodesk's design automation products also compete withe Parametric Technology Corporation's Pro/ENGINEERING, Computervision's CADDS, Structural Dynamics Research Corporation's I-DEAS, and CATIA from Dassault Systems.

Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

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AUTODESK, INC.
2320 Marinship Way
Sausalito, CA 94965
(415) 332-2344

Carol A. Bartz, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 1,272
Total Revenue, Fiscal Year End 1/31/92: $284,903,000

The Company

Autodesk, Inc., incorporated in December 1982, designs, develops, markets and supports a family of computer-aided design and drafting (CAD) software products for desktop computers and workstations. The company's principal product, AutoCAD[R], has over 600,000 users worldwide.

Autodesk's strategy in the development of its CAD products has been to offer low-cost, easy-to-use CAD packages that run on various computers and operating systems.

- Autodesk believes that more powerful desktop computers and networks will allow its customers to more efficiently integrate design, drafting, analysis, and manufacturing functions.

- To facilitate this integration, AutoCAD and its related products are designed to maintain file compatibility across all supported computers, workstations, and operating environments.

- Autodesk has also maintained an open architecture on its products to facilitate third-party development of peripheral and complementary products. In line with this strategy, the company has implemented the AutoCAD Development System, which enables third-party developers to create applications for AutoCAD using high-level languages such as C.

During 1991, Autodesk undertook several strategic actions to further position the company for growth.

- Autodesk's customer-related operations have been structured into three geographical regions--the Americas, Europe, and Asia/Pacific. In order to strengthen local market presence, develop more direct contact with dealers and distributors, and better serve customer needs, Autodesk converted its European operations from an organization centered around three subsidiaries in Switzerland, Sweden, and the U.K., to a network

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of subsidiaries throughout Europe. During fiscal 1993, the company plans to make similar changes to its structure in the Asia/Pacific region.

- Product development and strategic market functions have been organized within five divisions--AutoCAD, Autodesk Retail Products, Multimedia, Scientific Modeling, and Information Systems. This structure focuses Autodesk's marketing and technical activities, providing a foundation for further diversification and product innovation.

Fiscal 1992 revenue reached $284.9 million, a 20% increase over fiscal 1991 revenue of $237.9 million. Net income rose 2%, from $56.8 million in fiscal 1991 to $57.8 million in fiscal 1992. A five-year financial summary follows:

AUTODESK, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	1/92	1/91	1/90	1/89	1/88
Revenue	$284.9	$237.9	$178.6	$117.3	$79.3
· Percent increase from previous year	20%	33%	52%	48%	51%
Income before taxes	$92.3	$92.0	$76.4	$54.2	$35.0
· Percent increase from previous year	--	20%	41%	55%	17%
· Gross margin	32%	39%	43%	46%	44%
Net income	$57.8	$56.8	$46.4	$32.7	$20.5
· Percent increase from previous year	2%	22%	42%	59%	77%
· Net margin	20%	24%	26%	28%	26%
Earnings per share	$2.31	$2.30	$1.91	$1.35	$0.89
· Percent increase from previous year	--	20%	41%	52%	62%

Autodesk management attributes revenue growth in fiscal 1992 to the continued market acceptance of the company's AutoCAD product both domestically and abroad. Growth also continued in retail products and multimedia, primarily as a result of new product introductions.

- European revenues increased approximately 32% and Asia/Pacific revenue increased 28% over the prior year. A

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majority of the growth in Europe was attributed to the establishment of a local market presence.

Research and development expenditures, including capitalized software, were $34.8 million (13% of revenue) in fiscal 1992, $27.8 million (12% of revenue) in fiscal 1991, and $22.6 million (13% of revenue) in fiscal 1990.

- During fiscal 1992, Autodesk opened a research and development center in Switzerland, which will support product development and localization of Autodesk's products for the European market.

Autodesk has investments in the following companies:

- Generic Software, Inc. of Bothell (WA), acquired in 1989, provides the Generic CADD[R] family of entry-level CAD software products for microcomputers. During 1991, these operations were merged into Autodesk's Retail Products Division.

- Autodesk has a majority equity interest in American Information Exchange (AMIX) of Palo Alto (CA). AMIX is developing software that permits information sharing among organizations.

- Autodesk has an 80% equity interest in Xanadu Operating Company of Palo Alto (CA). Xanadu is the developer of the Xanadu Hypertext System which stores, manages, and manipulates text, graphical, audio, and other information. The Xanadu group is developing new tools for information processing in the work group environment.

As of January 31, 1992 Autodesk had 1,272 full-time employees (863 in North America, 312 in Europe, and 97 in the Asia/Pacific region), segmented as follows:

Marketing, sales, and product support	563
Software development	298
Quality assurance	68
Production	85
General and administrative	258
	1,272

AutoCAD competitors include Personal Designer and VersaCAD by Computervision, CADKEY by CADKEY, Inc., CADVANCE by ISICAD, Inc., Claris CAD by Claris Corp., MicroCADAM, by

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CADAM, Inc., and MicroStation by Intergraph. Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

Key Products and Services

One hundred percent of Autodesk's fiscal 1992 revenue was derived from the sale of its CAD applications software products.

- AutoCAD sales accounted for 90% of fiscal 1992 revenue, compared to 88% of fiscal 1991 revenue, and 88% of revenue in fiscal 1990.

- The remainder of revenue was derived from the company's other CAD and multimedia products.

AutoCAD Division:

AutoCAD, the company's principal product, was introduced in November 1982 and has since been enhanced through a series of releases.

- AutoCAD, available in more than 80 countries and 17 languages, automates the design and drafting process by enabling users to interactively create, store, and edit a variety of drawings. This drawing information may be exchanged with other applications software, data bases, and mainframe CAD systems.

- The most recent version of AutoCAD, Release 11, provides users with new features in the areas of network support, external references, multiple-view plotting, enhanced text editing and user interfaces, dimensioning, programmability, and drawing recovery.

- AutoCAD is used in a variety of applications, including facilities management; mechanical computer-aided design (MCAD); architecture, engineering, and construction (AEC); geographic information systems (GISs), and electronic design automation (EDA).

- AutoCAD operates in many major desktop and workstation operating environments, including MS-DOS, 386/DOS-Extender, Sun Microsystems' OpenWindows, Apple Macintosh, and DEC's ULTRIX. More recently, AutoCAD was ported to run under Silicon Graphics' IRIX and HP's HP-UX.

- In March 1992, Autodesk began shipping AutoCAD Release 11 Extension for Windows which gives customers the option of running AutoCAD in DOS, under Windows, or in both environments interchangeably. Autodesk also intends to make

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AutoCAD available under the IBM AIX System on RS/9000 computers in the second quarter of fiscal 1993.

Advanced Modeling Extension™ 2.0 works with AutoCAD's design and drafting features to provide users with a set of solid modeling tools for constructing, manipulating, and analyzing models.

AutoShade® Version 2 with Autodesk RenderMan® is a full-color rendering package for use with AutoCAD that transforms AutoCAD drawings into three-dimensional shaded images showing perspective, lighting, and specular reflection. It allows customers to create photorealistic renderings of their AutoCAD designs.

Autodesk Retail Products Division:

This unit offers several low-cost products for design professionals, home computer users, educators, research scientists, and computer graphics designers.

Generic CADD 6.0 is a low-cost two-dimensional CAD software package for PCs, laptops, and portables that automates both the design and production drafting processes.

AutoSketch®, released in late 1986, is a low-cost, entry-level drawing program for technical illustrations.

Home Series™ is a line of easy-to-use design programs--HOME™, KITCHEN™, BATHROOM™, LANDSCAPE™, and DECK™--that provides home hobbyists with design tools to create detailed building plans, including accurate room measurements, square footage calculations, and plan notes in architectural style lettering.

Autodesk also offers other low-cost general-purpose design and drafting tools including:

- Generic 3D, Generic CADD for the Macintosh, and GenCADD vertical software for the AEC marketplace

- CA Lab™ (Cellular Automata Laboratory), a microcomputer graphics package used to create cellular automated programs that produce self-generating graphics for various applications, including modeling fluid flow and simulating chemical reactions

- CHAOS: The Software™, an interactive graphics product that illustrates many of the chaotic systems in James Gleik's *Chaos - Making a New Science*

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Multimedia Division:

This unit offers products that combine still images, text, and animation for use in corporate presentations, advertising, graphics, and video/film production markets.

Autodesk 3D Studio is a graphics software package for creating high-resolution 3D models, renderings, and animations on 386/486-based PCs.

Autodesk Animator Pro™ is a professional-quality 2D animation and paint program that features resolution displays, imaging, and animation capabilities for on-screen playback and desktop video applications.

Autodesk Multimedia Explorer™ supports animation on the PC and includes:

- Autodesk Animator, a 2D animation package that integrates animation capabilities with paint and image-enhancement tools
- Autodesk Animation Player for Windows, which allows playback of 2D or 3D animations in real time from a hard disk or CD ROM without extensive memory requirements
- Autodesk Animator Clips, which provides a library of ready-made art that is compatible with Autodesk 3D Studio, and Autodesk Animator Pro.

Scientific Modeling Division:

This unit is focused on the development and marketing of software products to increase the productivity of chemists, biochemists, physicists, material scientists, and educators.

HyperChem™, Autodesk's first entry into this market, is a Windows-based set of tools that allows mainstream experimental and bench chemists to gain insight into the structure and properties of chemicals. HyperChem can be used to build and display 3D molecular structures, investigate the reactivity of molecules, evaluate chemical pathways and mechanisms, study the behavior of molecules, and construct proteins and nucleic acids.

Information Systems Division:

This unit was established to provide products that enhance both the management and sharing of information from multiple sources and a variety of formats.

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The American Information Exchange Corporation has developed AMIX, the Information Marketplace, an on-line information marketplace where businesses and individuals can buy and sell an array of electronic documents, software, and expertise through their PCs.

- The Information Marketplace was opened to a limited market in the first quarter of fiscal 1993 and is expected to be commercially available later in the fiscal year. Each Information Marketplace supports buying and selling electronically stored documents including text, software graphics, sound, and customized information in the form of consulting services.

- Target opportunities include the fields of market research, software components, and the business and technical information needs of corporate, office automation, and telecommunications industries.

- Autodesk supplies software, operates the Information Marketplace, implements contractual terms, and provides accounting, billing, and other support services.

Xanadu Operating Company is developing the Xanadu Hypertext System, which stores, manages, and manipulates text, graphical, audio, and other information.

Other:

Autodesk developer programs include Registered (for commercial software manufacturers and corporate development teams), Strategic (for third-party developers of specialized AutoCAD applications), and International (for third-party developers in foreign countries).

As of January 31, 1992, Autodesk had over 450 independent authorized AutoCAD training centers worldwide. These centers teach users basic, intermediate, and advanced computer-aided design using AutoCAD and other Autodesk products.

Industry Markets

Autodesk's products generally are designed for broad market distribution to sophisticated CAD users as well as users without specialized CAD training. Typical users include mechanical, structural, and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; and educators.

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Autodesk's products are sold worldwide in over 80 countries using dealers, distributors, and direct marketing methods.

- Autodesk's distribution network consists of over 4,000 authorized dealers and distributors, including owners of computer stores and computer store franchisees, which are supported by Autodesk and its subsidiaries through technical training, direct telephone support, periodic publications, and CompuServe (with Autodesk Forum).

- Autodesk also seeks to work with the direct sales forces of computer manufacturers, other software developers, and graphics peripheral manufacturers.

Domestically, Autodesk distributes its products primarily through its authorized dealer network. Sales to dealers and distributors accounted for approximately 56%, 59%, and 68% of Autodesk's domestic revenues in fiscal 1992, 1991, and 1990, respectively. The balance of domestic sales is made principally to large corporations, government agencies, and educational institutions.

- Autodesk major accounts programs support companies that are regional, national, and international in scope. These services include volume purchase agreements, on-site training, and support to large corporate accounts.

- The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

Internationally, Autodesk's products are sold primarily by dealers and distributors, which are supported by Autodesk's foreign subsidiaries, and through direct exports from the U.S.

Geographic Markets

Approximately 41% of Autodesk's fiscal 1992 revenue was derived from the U.S. and the remaining 59% from foreign sources, including exports and foreign subsidiaries. A three-year financial summary by geographic market follows:

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AUTODESK, INC.
THREE-YEAR GEOGRAPHIC SUMMARY
($ millions)

	FISCAL YEAR					
	1/92		1/91		1/90	
GEOGRAPHIC MARKET	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL
Revenue						
· U.S.	$118.1	41%	$105.9	44%	$81.2	45%
· Exports (a)	20.2	7%	20.5	9%	15.7	9%
· Royalties (a)	29.1	10%	22.3	9%	16.6	9%
· Europe (c)	107.9	38%	81.4	34%	58.7	33%
· Asia/Pacific (c)	38.7	14%	30.1	13%	23.0	13%
(Eliminations) (9.1)	(29.1)	(10%)	(22.3)	(9%)	(16.6)	(9%)
TOTAL	**$284.9**	**100%**	**$237.9**	**100%**	**$178.6**	**100%**
Income from operations						
· Americas	$39.6	49%	$49.8	61%	$38.4	57%
· Europe (c)	27.5	34%	21.5	27%	21.9	33%
· Pacific Basin (c)	13.1	16%	9.6	12%	6.7	10%
TOTAL	**$80.2**	**100%**	**$80.9**	**100%**	**$67.0**	**100%**

(a) Includes export revenue to Canada of $7.6 million, $9.1 million, and $9.7 million and export revenue to the Asia/Pacific of $8.3 million, $8.4 million, and $4.3 million for fiscal 1992, 1991, and 1990, respectively.

(b) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(c) Represents the operations of Autodesk's foreign subsidiaries.

Foreign subsidiaries are located in Australia, Austria, Canada, Czechoslovakia, England, France, Germany, Italy, Japan, the Netherlands, Singapore, Spain, Sweden, and Switzerland. Autodesk also has a joint venture in the Soviet Union called Parallel.

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AUTODESK, INC.
2320 Marinship Way
Sausalito, CA 94965
(415) 332-2344

Alvar J. Green, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 1,102
Total Revenue, Fiscal Year End 1/31/91: $237,850,000

The Company

Autodesk, Inc., incorporated in December 1982, designs, develops, markets and supports a family of computer-aided design and drafting (CAD) software products for microcomputers and 32-bit workstations. The company's principle product, AutoCAD[R], has over 470,000 users worldwide.

Autodesk's strategy in the development of AutoCAD and its other products has been to offer low-cost, easy-to-use CAD packages that run on virtually all computers supporting the MS-DOS operating system, the Apple Macintosh II computer, and on certain engineering workstations supporting UNIX or similar systems.

- Autodesk has also maintained an open architecture on its products to facilitate third-party development of peripheral and complementary products. In line with this strategy, the company has implemented the AutoCAD Development System, which enables third-party developers to create applications for AutoCAD using high-level languages such as C.

Fiscal 1991 revenue reached $237.9 million, a 33% increase over fiscal 1990 revenue of $178.6 million. Net income rose 22%, from $46.4 million in fiscal 1990 to $56.8 million in fiscal 1991. A five-year financial summary follows:

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AUTODESK, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR					
ITEM	1/91	1/90	1/89	1/88	1/87	CAGR
Revenue	$237.9	$178.6	$117.3	$79.3	$52.4	46%
• Percent increase from previous year	33%	52%	48%	51%	77%	
Income before taxes	$92.0	$76.4	$54.2	$35.0	$29.9	32%
• Percent increase from previous year	20%	41%	55%	17%	130%	
• Gross margin	39%	43%	46%	44%	57%	
Net income	$56.8	$46.4	$32.7	$20.5	$11.6	49%
• Percent increase from previous year	22%	42%	59%	77%	78%	
• Net margin	24%	26%	28%	26%	22%	
Earnings per share	$2.30	$1.91	$1.35	$0.89	$0.55	43%
• Percent increase from previous year	20%	41%	52%	62%	62%	

Autodesk management attributes revenue growth in fiscal 1991 to the continued market acceptance of the company's AutoCAD product both domestically and abroad. Sales were also favorably impacted by a full year of sales from Generic Software, Inc., which was acquired during 1989, and Autodesk's multimedia products.

Research and development expenditures, excluding capitalized software, were $24.4 million (10% of revenue) in fiscal 1991, $21.3 million (12% of revenue) in fiscal 1990, and $10.9 million (9% of revenue) in fiscal 1989.

- Total research and development costs, included capitalized amounts, were 12%, 13%, and 12% of revenue in fiscal 1991, 1990, and 1989, respectively.

- According to Autodesk, the company intends to continue to recruit and hire experienced software developers while at the same time considering the acquisition of complementary software technology and products.

- Autodesk plans to open a European research and development center in fiscal 1992 that will focus on advanced technology

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developed in that region and improved translation techniques for existing Autodesk products.

Autodesk has investments in the following companies:

- Generic Software, Inc. of Bothell (WA) is a wholly owned subsidiary of Autodesk that was acquired during 1989. Generic Software provides the Generic CADD[R] family of entry-level CAD software products for microcomputers.

- Autodesk has a majority equity interest in American Information Exchange (AMIX), a California corporation. AMIX is developing software that permits information sharing among organizations.

- Autodesk has an 80% equity interest in Xanadu Operating Company of Palo Alto (CA). Xanadu is the developer of the Xanadu Hypertext System which stores, manages, and manipulates text and graphical information. The Xanadu group is developing new tools for information processing in the work group environment.

As of January 31, 1991 Autodesk had 1,102 full-time employees, segmented as follows:

Marketing, sales, and product support	451
Software development	233
Quality assurance	51
Product management	23
Production	78
Finance and administration	266
	1,102

Competitors, by product area, include the following:

- AutoCAD competes directly with other microcomputer CAD software, including Personal Designer and VersaCAD by Computervision, CADKEY by CADKEY, Inc., Anvil by Manufacturing and Consulting Services, CADVANCE by ISICAD, Inc., Claris CAD by Claris Corp., Micro-CADAM, by CADAM, Inc., and MicroStation by Intergraph.

- AutoSketch and Generic CADD products compete with Drafix I Plus from Foresight Resources Corp. and DesignCad from American Small Business Computers.

- Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

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Key Products and Services

One hundred percent of Autodesk's fiscal 1991 revenue was derived from the sale of its CAD applications software products.

- AutoCAD sales accounted for 88% of fiscal 1991 revenue, compared to 88% of revenue in fiscal 1990, and 93% of revenue in fiscal 1989.

- The remainder of revenue was derived from the company's other CAD and multimedia products.

Autodesk currently markets the following CAD software products:

- AutoCAD, the company's principal product, was introduced in November 1982 and has since been enhanced through a series of releases.

  - AutoCAD automates the design and drafting process by enabling users to interactively create, store, and edit a variety of drawings. This drawing information may be exchanged with other applications software, data bases, and mainframe CAD systems.

  - The most recent version of AutoCAD, Release 11, provides users with new features in the areas of network support, external references, multiple-view plotting, enhanced text editing and user interfaces, dimensioning, programmability, and drawing recovery.

  - According to Autodesk, AutoCAD provides desktop computer users with many of the benefits of more expensive mainframe- or minicomputer-based CAD systems but at a substantially lower cost. AutoCAD has a suggested retail price of $3,500.

  - AutoCAD operates on many major desktop computers and workstations, including machines manufactured by Apple, COMPAQ, DEC, HP, IBM, and Sun and runs on many PC and workstation operating environments. Through the Autodesk Device Interface, AutoCAD can be interfaced with virtually any input and output device.

  - AutoCAD is currently available in Czech, Danish, English, Finnish, French, German, Italian, Kanji, Polish, Norwegian, Polish, Russian, Spanish, and Swedish editions.

- AutoShade[R] is a full-color rendering package that transforms AutoCAD drawings into three-dimensional shaded images

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showing perspective, lighting, and specular reflection. This product (Version 2) retails for $500.

- AutoShade[R] Version 2 with Autodesk RenderMan[R], introduced in January 1991, is a companion product that allows customers to create photorealistic renderings of their AutoCAD designs. The product has a suggested retail price of $1,000.

- Advanced Modeling Extension is an analytical solid-modeling option for AutoCAD. It is available for $495.

- AutoCAD AEC Architectural is a third-party architectural design and drafting system for use with AutoCAD. Autodesk only sells the product in Europe. Elsewhere it is marketed by the developer.

- AutoSketch[R], released in late 1986, is a low-cost, full-function precision drawing program for personal computers.

  - AutoSketch drawing applications include business graphics, architectural drawing, line art for desktop publishing, and technical illustrations.

  - AutoSketch is currently available in Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Spanish, and Swedish.

  - AutoSketch has a suggested retail price of $249. Over 200,000 units have been sold to date.

- Generic Software produces a line of low-cost, general purpose design and drafting tools for IBM and compatible microcomputers and Apple Macintosh systems.

  - The core products include Generic CADD 5.0, Generic 3-D, and Generic CADD for the Macintosh.

  - Generic Software also markets add-on products and symbol libraries. Versions are available in Danish, Finnish, French, German, Italian, Kanji, Norwegian, and Swedish.

  - GenCADD, a new line of software for the AEC marketplace, provides automated applications for architects, contractors, and civil engineers.

  - More than 275,000 core products and over 630,000 add-on packages have been shipped to date. The products sell for suggested retail prices of between $50 and $990.

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Multimedia products available from Autodesk include the following:

- Autodesk 3D Studio is a professional-quality, 3-D modeling, rendering, and animation software product for the PC. The suggested retail price is $2,995.

- Autodesk Animator™, introduced during fiscal 1990, is a multimedia software product for IBM and compatible microcomputers that combines professional animation capabilities with paint and image processing tools. It has a suggested retail price of $495.

- Autodesk Animator Clips are a series of animation sequences and still images designed to be modified and built upon to create a finished multimedia presentation. The packages retail for $149 each.

CA Lab™ (Cellular Automata Laboratory) is a microcomputer graphics package used to create cellular automata programs that produce self-generating graphics for various applications, including modeling fluid flow and simulating chemical reactions. The product retails for $60.

CHAOS: The Software™ is an interactive graphics product that illustrates many of the chaotic systems in James Gleik's *Chaos - Making a New Science*.

Autodesk developer programs include Registered (for commercial software manufacturers and corporate development teams), Strategic (for third-party developers of specialized AutoCAD applications), and International (for third-party developers in foreign countries).

As of January 31, 1991, Autodesk had over 350 independent authorized AutoCAD training centers worldwide. These centers teach users basic, intermediate, and advanced computer-aided design using AutoCAD and other Autodesk products.

Industry Markets

Autodesk currently has a customer base of over 900,000. Autodesk's products generally are designed for broad market distribution to sophisticated CAD users as well as users without specialized CAD training. Typical users include mechanical, structural, and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; and educators.

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Autodesk's products are sold worldwide in over 80 countries using dealers, distributors, and direct marketing methods.

- Autodesk's distribution network consists of over 4,000 authorized dealers and distributors, including owners of computer stores and computer store franchisees, which are supported by Autodesk and its subsidiaries through technical training, direct telephone support, periodic publications, and CompuServe (with Autodesk Forum).

- Autodesk also seeks to work with the direct sales forces of computer manufacturers, other software developers, and graphics peripheral manufacturers.

Domestically, Autodesk distributes its products primarily through its authorized dealer network. Sales to dealers and distributors accounted for approximately 59%, 68%, and 75% of Autodesk's domestic net revenues in fiscal 1991, 1990, and 1989, respectively. The balance of domestic sales is made principally to large corporations, government agencies, and educational institutions.

- Autodesk major accounts programs support companies that are regional, national, and international in scope. These services include volume purchase agreements, on-site training, and support to large corporate accounts. Domestically, Autodesk has opened offices in Atlanta, Chicago, Dallas, and Parsippany (NJ) to support this program.

- The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

International, Autodesk's products are sold primarily by dealers and distributors, which are supported by Autodesk's foreign subsidiaries, and through direct exports from the U.S.

Geographic Markets

Approximately 45% of Autodesk's fiscal 1991 revenue was derived from the U.S. and the remaining 55% from foreign sources, including exports and foreign subsidiaries. A three-year financial summary by geographic market follows:

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AUTODESK, INC.
THREE-YEAR GEOGRAPHIC SUMMARY
($ millions)

	FISCAL YEAR					
	1/91		1/90		1/89	
GEOGRAPHIC MARKET	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Revenue						
• U.S.	$105.9	44%	$81.2	45%	$61.0	52%
• Exports	20.5	9%	15.7	9%	8.6	8%
• Royalties (a)	22.3	9%	16.6	9%	9.1	7%
• Europe (b)	81.4	34%	58.7	33%	34.4	29%
• Pacific Basin (b)	30.1	13%	23.0	13%	13.2	11%
(Eliminations)	(22.3)	(9%)	(16.6)	(9%)	(9.1)	(7%)
TOTAL	**$237.9**	**100%**	**$178.6**	**100%**	**$117.2**	**100%**
Income before taxes						
• U.S.	$56.3	61%	$45.9	60%	$41.0	76%
• Europe (b)	25.6	28%	23.6	31%	9.9	18%
• Pacific Basin (b)	10.0	11	6.9	9%	3.3	6%
Total	**$91.9**	**100%**	**$76.4**	**100%**	**$54.2**	**100%**

(a) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(b) Represents the operations of Autodesk's foreign subsidiaries.

Foreign subsidiaries are located in Australia, Austria, England, France, Germany, Italy, Japan, the Netherlands, Spain, Sweden, and Switzerland. Autodesk also has a joint venture in the Soviet Union called Parallel.

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AUTODESK, INC.
2320 Marinship Way
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(415) 332-2344

Alvar J. Green, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 905
Total Revenue, Fiscal Year End 1/31/90: $178,591,000

The Company

Autodesk, Inc., incorporated in December 1982, designs, develops, markets and supports a family of computer-aided design and drafting (CAD) software products for microcomputers and 32-bit workstations. As of May 1990, over 300,000 copies of the company's primary product, AutoCAD[R], had been sold.

Autodesk's strategy in the development of AutoCAD and its other products has been to offer low-cost, easy-to-use CAD packages that run on virtually all computers supporting the MS-DOS operating system, the Apple Macintosh II computer, and on certain engineering workstations supporting UNIX or similar systems.

- Autodesk has also maintained an open architecture on its products to facilitate third-party development of peripheral and complementary products. In line with this strategy, the company has implemented the AutoCAD Development System, which enables third-party developers to create applications for AutoCAD using high-level languages such as C.

Since its inception, Autodesk has made two public stock offerings:

- In 1985, Autodesk made an initial public offering of 4.2 million shares of common stock, of which 3.6 million shares were sold by the company. Net proceeds from the sale to Autodesk were approximately $12 million.

- In June 1987, the company completed a second public offering of 2.5 million shares of common stock. The proceeds from the sale were approximately $57.3 million.

Fiscal 1990 revenue reached $178.6 million, a 52% increase over fiscal 1989 revenue of $117.3 million. Net income rose 42%, from

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$32.7 million in fiscal 1989, to $46.4 million in fiscal 1990. A five-year financial summary follows:

AUTODESK, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR					
ITEM	1/90	1/89	1/88	1/87	1/86	CAGR
Revenue	$178.6	$117.3	$79.3	$52.4	$29.5	57%
• Percent increase from previous year	52%	48%	51%	77%	199%	
Income before taxes	$76.4	$54.2	$35.0	$29.9	$13.0	56%
• Percent increase from previous year	41%	55%	17%	130%	352%	
• Gross margin	43%	46%	44%	57%	44%	
Net income	$46.4	$32.7	$20.5	$11.6	$6.5	63%
• Percent increase from previous year	42%	59%	77%	78%	301%	
• Net margin	26%	28%	26%	22%	22%	
Earnings per share	$1.91	$1.35	$0.89	$0.55	$0.34	54%
• Percent increase from previous year	41%	52%	62%	62%	240%	

Autodesk management attributes the company's revenue growth in fiscal 1990 primarily to the continued success of AutoCAD in the U.S., Europe, and the Pacific Basin, including both new orders for Release 10 as well as product updates.

- Other factors contributing to revenue growth include the acquisition of Generic Software, Inc. in May 1989, and the release of Autodesk Animator in September 1989.

Research and development expenditures, excluding capitalized software, were $21.3 million (12% of revenue) in fiscal 1990, $10.9 million (9% of revenue) in fiscal 1989, and $7.2 million (9% of revenue) in fiscal 1988.

- This increase was attributed to the addition of software developers, the cost of computer equipment used in software development, and acquisitions.

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- Total research and development costs, included capitalized amounts, were 13%, 12%, and 11% of revenue in fiscal 1990, 1989, and 1988, respectively.

- According to Autodesk, the company intends to continue to recruit and hire experienced software developers while at the same time considering the acquisition of complementary software technology and products.

- In January 1987, Autodesk instituted a new support program for AutoCAD users. Called the Specialized Training and Consulting referral service, it was designed to refer AutoCAD users to the authorized Autodesk Training Centers[R] nearest to them.

Recent acquisitions made by Autodesk include the following:

- In May 1989, Autodesk purchased Generic Software, Inc. of Bothell (WA) for approximately $6.3 million. Generic Software provides the Generic CADD[TM] family of entry-level CAD software products for microcomputers.

- During fiscal 1989, Autodesk acquired a majority equity interest in American Information Exchange (AMIX), a California corporation. AMIX is developing software that permits information sharing among organizations.

- Also during fiscal 1989, Autodesk acquired an 80% equity interest in Xanadu Operating Company of Palo Alto (CA). Xanadu is the developer of the Xanadu Hypertext System which stores, manages, and manipulates text and graphical information. The Xanadu group is developing new tools for information processing in the work group environment.

As of January 31, 1990 Autodesk had 905 full-time employees, segmented as follows:

Marketing, sales, and product support	383
Software development	186
Quality assurance	40
Product management	19
Production	70
Finance and administration	207
	905

Competitors, by product area, include the following:

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- AutoCAD competes directly with other microcomputer CAD software, including Personal Designer by Computervision, VersaCAD by VersaCAD Corp., CadKey by MicroControl Systems, Anvil by Manufacturing and Consulting Services, Micro-CADAM, by CADAM, Inc., and Microstation by Intergraph. IBM and Claris (a subsidiary of Apple) have also released competitive products.

- AutoSketch and Generic CADD products compete with Drafix I Plus from Foresight Resources Corp. and DesignCad from American Small Business Computers.

- Autodesk also faces competition in its foreign operations from a number of products offered by foreign-based companies.

Key Products and Services

One hundred percent of Autodesk's fiscal 1990 revenue was derived from the sale of its CAD application software products.

- AutoCAD sales accounted for 88% of fiscal 1990 revenue, compared to 93% of revenue in fiscal 1989, and 93% of revenue in fiscal 1988. Over 300,000 units have been installed worldwide.

- The remainder of revenue was derived from the company's other CAD products.

Autodesk currently markets the following CAD software products:

- AutoCAD, the company's principal product, was introduced in November 1982 and has since been enhanced through a series of releases. Currently, over 70% of the installed AutoCAD base are using AutoCAD Release 10, the product's most current version.

  - AutoCAD automates the design and drafting process by enabling users to interactively create, store, and edit a variety of drawings. This drawing information may be exchanged with other applications software, data bases, and mainframe CAD systems.

  - According to Autodesk, AutoCAD provides desktop computer users many of the benefits of more expensive mainframe or minicomputer-based CAD systems but at a substantially lower cost. AutoCAD pricing ranges from $3,000 to $3,300, depending on the hardware platform.

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- AutoCAD operates on many major desktop computers and workstations, including machines manufactured by AT&T, Apollo, Apple, COMPAQ, DEC, HP, IBM, NEC Information Systems, Sun, Texas Instruments, ACER, and Zenith Data Systems. Through the Autodesk Device Interface, AutoCAD can be interfaced with virtually any input and output device.

- AutoCAD is currently available in Czech, Danish, English, French, German, Italian, Kanji, Polish, Norwegian, Russian, Spanish, and Swedish editions.

• AutoSketch[R], released in late 1986, is a low-cost, full function precision drawing program for personal computers.

  - AutoSketch drawing applications include business graphics, architectural drawing, line art for desktop publishing, and technical illustrations.

  - AutoSketch is currently available in Danish, English, Finnish, French, German, Italian, Norwegian, Spanish, and Swedish.

  - AutoSketch has a suggested retail price of $149.95. Over 150,000 units have been sold to date.

• AutoShade™, released in September 1987, transforms AutoCAD drawings into three-dimensional shaded images showing perspective, lighting, and specular reflection. This product retails for $500.

• AutoSolid is a conceptual design package which uses solid modeling to create analytical models of three-dimensional components and assemblies. Autodesk is developing software that will allow AutoSolid to be integrated with AutoCAD Release 11 (scheduled for shipment in the last half of 1990). AutoSolid, as a separately priced extension to AutoCAD, will be available for $500. AutoSolid previously sold for $5,000 as a standalone product.

• Generic CADD is a family of entry-level modular design and drafting software for IBM and compatible microcomputers and Apple Macintosh systems. The products sell for suggested retail prices of between $99.00 and $395.00. More than 225,000 units have been shipped to date.

Autodesk Animator™, introduced during fiscal 1990, is a multimedia software product for IBM and compatible

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microcomputers that combines professional animation capabilities with paint and image processing tools.

- The product can be used in sales, advertising, education, medicine, television, and other fields to create animated representations that can be played on personal computers or output to a video tape.

- Autodesk Animator sells at a suggested retail price of $395.

- Clip Art is a library of Autodesk Animator "clips" (animation sequences and still images) designed to be modified and built upon to create a finished multimedia presentation.

CA Lab™ (Cellular Automata Laboratory) is a microcomputer graphics package used to create cellular automata programs that produce self-generating graphics for various applications, including modeling fluid flow and simulating chemical reactions. The product retails for $59.95.

Autodesk continues to support, but no longer actively markets the following third-party software products:

- AutoCAD AEC® Architectural is an integrated architectural design and drafting system for use with AutoCAD. Released in late 1986, AutoCAD AEC Architectural automates drawing tasks and creates construction documentation directly from the drawing, providing consistency between the drawings and contractor information. The metric version of this product will continue to be produced and marketed by Autodesk's U.K. subsidiary.

- AutoCAD AEC® Mechanical enables engineers to design and edit diagrams for pipe layout and risers, heating, ventilation and air conditioning equipment, fire protection systems, and duct layout.

Autodesk developer programs include Registered (for commercial software manufacturers and corporate development teams), Strategic (for third-party developers of specialized AutoCAD applications), and International (for third-party developers in foreign countries).

As of January 31, 1990, Autodesk had over 350 independent authorized AutoCAD training centers worldwide. These centers teach users basic, intermediate, and advanced computer-aided design using AutoCAD and other Autodesk products.

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Industry Markets

Autodesk currently has a customer base of over 500,000. Autodesk's products generally are designed for broad market distribution to sophisticated CAD users as well as users without specialized CAD training. Typical users include mechanical, structural, and electrical engineers; architects; facilities planners; technical illustrators; interior designers; surveyors; electronic system designers; and educators.

Autodesk's products are sold in over 70 countries by dealers and distributors, which are supported by Autodesk and its subsidiaries. Autodesk's distribution network consists of over 4,000 authorized dealers and distributors, including owners of computer stores and computer store franchisees.

- Autodesk also seeks to work with the direct sales forces of computer manufacturers, other software developers, and graphics peripheral manufacturers.
- Autodesk's foreign subsidiaries support the Western and Eastern European markets, parts of the Middle East, and the Pacific Basin.
- Foreign sales, including direct exports from the U.S., contributed 55% to fiscal 1990 revenue, compared to 48% in fiscal 1989, and 43% in fiscal 1988.

Autodesk major accounts programs support companies that are regional, national, and international in scope. These services include volume purchase agreements, on-site training, and support to large corporate accounts. Domestically, Autodesk has opened offices in Atlanta, Chicago, Dallas, Alexandria (VA), and Parsippany (NJ) to support this program.

The Autodesk Federal Systems Group provides specialized services to federal government agencies through a sales office in Washington, D.C. Autodesk has also established programs for state and local governments.

Geographic Markets

Approximately 45% of Autodesk's fiscal 1990 revenue was derived from the U.S. and the remaining 55% from foreign sources, including exports and foreign subsidiaries. A three-year financial summary by geographic market follows:

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AUTODESK, INC.
THREE-YEAR GEOGRAPHIC SUMMARY
($ millions)

	FISCAL YEAR					
	1/90		1/89		1/88	
GEOGRAPHIC MARKET	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Revenue						
• U.S.	$81.2	45%	$61.0	52%	$45.0	57%
• Exports	15.7	9%	8.6	8%	5.0	6%
• Royalties (a)	16.6	9%	9.1	7%	5.3	7%
• Europe (b)	58.7	33%	34.4	29%	23.4	30%
• Pacific Basin (b)	23.0	13%	13.2	11%	5.9	7%
(Eliminations)	(16.6)	(9%)	(9.1)	(7%)	(5.3)	(7%)
TOTAL	**$178.6**	**100%**	**$117.3**	**100%**	**$79.3**	**100%**
Income before taxes						
• U.S.	$45.9	60%	$41.0	76%	$28.0	80%
• Europe (b)	23.6	31%	9.9	18%	6.3	18%
• Pacific Basin (b)	6.9	9%	3.3	6%	0.8	2%
Total	**$76.4**	**100%**	**$54.2**	**100%**	**$35.1**	**100%**

(a) Includes royalty revenue to the U.S. derived from the foreign subsidiaries.

(b) Represents the operations of Autodesk's foreign subsidiaries.

Foreign subsidiaries are located in Australia, Austria, England, France, Italy, Japan, Sweden, Switzerland, and West Germany.

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FINANCIAL UPDATE TO PROFILE DATED APRIL 1985

AUTODESK, INC.
2320 Marinship Way
Sausalito, CA 94965
(415) 332-2344

John Walker, President and CEO
Public Corporation, OTC
Total Employees: 214
Total Revenue, Fiscal Year End
1/31/86: $29,530,939

AUTODESK, INC.
THREE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1/86	1/85	1/84
Revenue	$29,531	$9,874	$1,189
. Percent increase from previous year	199%	730%	N/A
Income before taxes	$13,011	$2,881	$ 125
. Percent increase from previous year	352%	*	N/A
Net income	$ 6,521	$1,626	$ 113
. Percent increase from previous year	301%	*	N/A
Earnings per share	$ 1.03	$ 0.30	$ 0.02
. Percent increase from previous year	243%	*	N/A

*Percent change exceeds 1,000%

- On June 28, 1985, Autodesk made an initial public offering of 1.4 million shares of common stock, of which one million shares were sold by the company and 400,000 shares were sold by certain shareholders. In July 1985 the company sold an additional 210,000 shares pursuant to the underwriter's over allotment option. Net proceeds from the sale to Autodesk were approximately $12 million.

SOURCE OF REVENUE

- One hundred percent of Autodesk's fiscal 1986 revenue was derived from microcomputer-based computer-aided design and drafting application software products.

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- Approximately 91% of fiscal 1986 revenue was derived from AutoCAD®.

- The remaining 9% of fiscal 1986 revenue was derived from two new products introduced in August 1985--AutoCAD AEC® and CAD/camera T.M..

- Approximately 71% ($20.8 million) of fiscal 1986 revenue was derived from the U.S. Foreign sales from Western Europe and Japan accounted for the remaining 29% ($8.7 million) of revenue.

  - Autodesk opened a Japanese subsidiary in Tokyo during April 1985. Other foreign subsidiaries are located in England, Switzerland, and Sweden.

  - Approximately 80% ($7.9 million) of fiscal 1985 revenue was derived from the U.S. and 20% ($2 million) from Western Europe.

- Autodesk sells its products domestically primarily to dealers, which accounted for approximately 60% and 55% of revenue in fiscal 1986 and 1985, respectively, and to computer manufacturers, which accounted for approximately 9% and 22% of revenue in fiscal 1986 and 1985, respectively.

KEY PRODUCTS AND SERVICES

- Autodesk currently markets three computer-aided design and drafting software products for 16-bit microcomputers.

  - AutoCAD, the company's general-purpose design and drafting package, has more than 40,000 installations worldwide. The basic AutoCAD package sells for a suggested retail price of $1,000.

    - Optional Advanced Drafting Extensions (ADE T.M.) packages are available as follows:

      - ADE-1, introduced in November 1983, and ADE-2, introduced in October 1984, were combined into a single package during May 1985 which is sold at a suggested retail price of $1,000. The package offers semiautomatic dimensioning, filleting, cross-hatching, freehand drawing, object breaking, attributes (which allows association of data base information with graphics symbols), object snap (which permits geometric constructions based on objects in the drawings), automated construction of isometric drawings, and dynamic object dragging.

      - ADE-3, introduced in May 1985 at a suggested retail price of $500, includes three-dimensional visualization, polylines, interactive object selection with highlighting, and LISP expressions and variables.

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- Autodesk also has configured versions of AutoCAD for the IBM RT PC, the DEC MicroVAX II, and Sun and Apollo workstations.

- AutoCAD AEC is a productivity tool that customizes AutoCAD for architectural, engineering, and construction applications. The package is sold at a suggested retail price of $1,000.

- CAD/camera is an automatic scanning and vectorization package that scans drawings and converts them to vectorized lines readable by AutoCAD. The product has a suggested retail price of $3,000.

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COMPANY PROFILE

AUTODESK INC.
2320 Marinship Way
Sausalito, CA 94965
(415) 332-2344

John Walker, President
Private Corporation
Total Employees: 110
Total Revenue, Fiscal Year
End 1/31/85: $9 million*

THE COMPANY

- Autodesk Inc., founded by John Walker and incorporated in December 1982, markets a microcomputer-based, computer-aided design (CAD) software package, AutoCAD$^{T.M.}$.

- Fiscal 1985 revenue reached approximately $9 million, a 543% increase over fiscal 1984 revenue of $1.4 million.

- Autodesk's 110 employees are segmented as follows:

Marketing/sales	35
Software services/ customer support	14
Operations	21
Program development	27
General and administrative	13
	110

- Autodesk's AutoCAD package competes directly with The Drawing Processor from BG Graphics of Kent (WA) and MicroCAD from Computer Aided Design of San Francisco.

KEY PRODUCTS AND SERVICES

- One hundred percent of Autodesk's revenue is derived from its microcomputer-based CAD applications software package, AutoCAD.

- AutoCAD, which is sold on a license fee basis only, runs under MS-DOS, Z-DOS, and PC DOS on the following 16-bit microcomputers: IBM PC/XT, AT, and 3270G/GX; Victor 9000; TI Professional Computer; Zenith Z100; NEC Advanced Personal Computer; COMPAQ PC; Corona PC; Columbia PC; CompuPro 816; Sony SM-70; TeleVideo TS 1602GH; NCR Decision-Mate; DEC Rainbow; Tandy 2000; Wang PC; Data General DG/One; Apricot; and HP 150.

- AutoCAD, introduced in December 1982, is a two-dimensional computer-aided drafting and design software package. The program can be used to create, modify, rotate, scale, and plot line art of any type. The system is used for

*INPUT estimate

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architectural and landscape drawings; fine arts; interior design layouts; flow charts; plots of mathematic and scientific functions; drafting for mechanical, electrical, chemical, structural, and civil engineering; printed circuit board design; and other general purpose drafting.

- AutoCAD provides the ability to create user-defined screen menus, via ordinary text files, and to define parts libraries by drawing them. This allows users to gear the system closely to their specialized requirements.

- The system, which is written in the C language, is available in versions for English, French, German, and Swedish.

- The menu-driven package uses a coordinate system for locating points in drawings and for positioning entities. Other standard programming options include the following:

  - An Interactive Drawing Editor displays drawings and provides a set of commands to create, modify, view, and plot drawings. The Drawing Editor is automatically loaded when tasks are selected from the main menu.

  - A predefined elements file contains entity types such as lines, arcs, circles, shapes, text, points, and solids.

  - A drawing insertion feature inserts existing AutoCAD drawings into newly-created drawings to form a separate graphic unit.

  - A layering capability allows users to view and plot related drawings separately. An unlimited number of layers may be used, allowing selective viewing or plotting of drawings as if on transparent overlays.

  - A color capability, for use with multipen plotting devices, allows for unlimited color assignments to the different variables depending on system and plotter capabilities.

  - A full bidirectional zoom facility allows users to magnify or shrink the visible image of any drawing in order to view either the whole drawing or specific details.

  - Text annotation capabilities allow users to insert text of any size at any orientation into drawings.

  - Pointing devices, such as touch pens, mouses, and tablets, can be used for quick command entry.

  - Data base access allows for manipulation and addition of complex and detailed structure to stored drawings.

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- AutoCAD also provides for the creation of user-written programs to access the data base, allowing users to perform special functions such as listing specific details in each drawing (i.e., the number of windows on a house, etc.) and generating isometric images to show the elevation or top view of objects.

- AutoCAD, which retails for $1,000, is being used in 18,000 installations worldwide.

- Two optional Advanced Drafting Extension (ADE) packages are available for AutoCAD, priced at $500 each.

  - ADE-1 offers capabilities such as semiautomatic dimensioning, crosshatching, free-hand sketching, fillets, partial delete, and a units command for both coordinates and dimensions in feet and inches.

  - ADE-2 features include attributes, the capability for attaching data base information to a graphics symbol; isometric grids, a drawing tool that automates isometric drawings; and dynamic dragging of objects around the screen.

- A complete CAD system including computer hardware, AutoCAD software, and a plotter and digitizer, is available for less than $10,000. Autodesk, however, markets only the software.

- New products scheduled for availability during 1985 include the following:

  - Autodesk is extending AutoCAD's usefulness into the mainframe environment by introducing graphics translators for two-way graphic data transfer between micros and mainframe CAD systems. The first such package is an AutoCAD-to-Intergraph Translator. IGES, CADAM, and Computervision translators are also being developed.

  - CAD/camera T.M. is an automatic drawing and symbol capture package.

  - AE/CADD T.M., is a set of template-driven drafting and documentation tools for architectural and engineering applications developed by Archsoft Corporation of San Francisco. Designed to use with AutoCAD, the series of AE/CADD digitizer overlays and symbol libraries will allow the creation of an entire set of working drawings for the architect in addition to specialized engineering drawings.

- In February 1985 Autodesk announced the AutoCAD Applications Catalogue, a listing of over 80 software programs which have been developed by AutoCAD users to integrate AutoCAD into their particular environments. Programs are available for disciplines such as Architecture, Electrical Engineering, Electronic Engineering, Chemical Engineering, Civil/Mechanical Engineering, Structural Engineering, Construction, Facilities Planning, Graphic Database Translation, General Drafting, and Theatrical Lighting.

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INDUSTRY MARKETS

- Autodesk markets its software products through the following distribution channels:
  - More than 60% of AutoCAD sales are through retail dealers, including independent computer hardware and/or software stores, franchise operations, and chain stores. For these retailers Autodesk has implemented a sales support program that includes a one-day course in basic drafting skills and training in demonstrating the product. This course is given at Autodesk's headquarters to an average of 12 dealers each week.
  - OEMs currently account for approximately 25% of AutoCAD sales. Autodesk has established OEM arrnagements with a number of microcomputer and peripheral equipment manufacturers who incorporate AutoCAD into their own product offerings.
  - The remaining 15% of sales are derived from systems integrators and independent domestic distributors.
- Autodesk considers its target market to include Fortune 1000 corporations, small businesses, educational institutions, and cross-industry users in various disciplines including science, art, and design.

GEOGRAPHIC MARKETS

- Ninety percent of Autodesk's fiscal 1985 revenue was derived from the U.S. Ten percent of revenue came from foreign markets including Australia, Canada, Europe, Israel, and South Africa.
- Autodesk has branch sales offices located in the United Kingdom, Sweden, and Switzerland.

COMPUTER HARDWARE

- Autodesk has over 30 microcomputers from various vendors installed at its headquarters.

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COMPANY HIGHLIGHT

AUTODESK, INC.
150 Shoreline Highway
Building B20
Mill Valley, CA 94941
(415) 331-0356

John Walker, President
Private Corporation
Total Employees: 21
Total Revenue, Fiscal Year End
1/31/84: $1,200,000*

THE COMPANY

- Autodesk, founded by John Walker and incorporated in December 1982, markets a microcomputer-based, computer-aided design (CAD) software package, AutoCAD T.M..

- INPUT estimates that Autodesk's revenue for its first fiscal year, ending January 1984, will reach $1.2 million. The company began marketing its AutoCAD product in March 1983.

- As of January 1983 Autodesk had four employees. There are currently 21 employees segmented as follows:

Marketing/sales	5
Software services/ customer support	2
Operations	2
Program development	10
General and administrative	2
	21

- Autodesk's AutoCAD package competes directly with The Drawing Processor from BG Graphics of Kent (WA), and MicroCAD from Computer Aided Design, which is headquartered in San Francisco.

KEY PRODUCTS AND SERVICES

- One hundred percent of Autodesk's revenue is derived from its microcomputer-based CAD applications software package, AutoCAD.

- AutoCAD, which is sold on a license fee basis only, runs under CP/M, CP/M-86, MS-DOS, Z-DOS, and PC DOS on the following 8- and 16-bit microcomputers: IBM PC/XT, Victor 9000, Texas Instruments Professional Computer, Zenith Z100, NEC Advanced Personal Computer, COMPAQ PC, Corona PC, Eagle 1600 and PC, Columbia PC, CompuPro 816, Sony SM-70, TeleVideo TS 1602GH, NCR Decision-Mate, and DEC Rainbow.

*INPUT estimate

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- AutoCAD, announced in December 1982, is a two-dimensional computer-aided drafting and design software package. The program can be used to create, modify, rotate, scale, and plot line art of any type. The system is used for architectural and landscape drawings; fine arts; interior design layouts; flow charts; plots of mathematic and scientific functions; drafting for mechanical, electrical, chemical, structural, and civil engineering; and printed circuit board design.

  - AutoCAD provides the ability to create user-defined screen menus, via ordinary text files, and to define parts libraries by drawing them. This allows users to gear the system closely to their specialized requirements.

  - The system, which is written in the C language, is available in versions for English, French, German, and Swedish.

  - The menu-driven package uses a coordinate system for locating points in drawings and for positioning entities. Other standard programming options include the following:

    . An Interactive Drawing Editor displays drawings and provides a set of commands to create, modify, view, and plot drawings. The Drawing Editor is automatically loaded when tasks are selected from the main menu.

    . A pre-defined elements file contains entity types such as lines, arcs, circles, shapes, text, points, and solids.

    . A drawing insertion feature inserts existing AutoCAD drawings into newly-created drawings to form a separate graphic unit.

    . A layering capability allows users to view and plot related drawings separately. Up to 127 layers may be used, allowing selective viewing or plotting of drawings as if on transparent overlays.

    . A color capability, for use with multi-pen plotting devices, allows for up to 127 color assignments to the different variables.

    . A full bi-directional zoom facility allows users to magnify or shrink the visible image of any drawing in order to view either the whole drawing or specific details.

    . Text annotation capabilities allow users to insert text of any size at any orientation into drawings.

    . Pointing devices, such as touch and light pens, mouses, and tablets, can be used for quick command entry.

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- Data base access allows for manipulation and addition of complex and detailed structure to stored drawings.

- AutoCAD also provides for the creation of user-written programs to access the data base, allowing users to perform special functions such as listing specific details in each drawing (i.e.: the number of windows on a house, etc.) and generating isometric images to show the elevation or top view of objects.

- The Advanced Drafting Extension is an optional module that allows users to perform automatic dimensioning. This module retails for $500.

- New features released in November 1983 include cross hatching, dimensions in feet and inches, fillets, double walls, partial delete, and a freehand sketch mode. Soon to be available is a symbols library licensed from the Alpha Meric Company.

- AutoCAD, which retails for $1,000, is being used in 1,500 installations worldwide.

- A complete CAD system including computer hardware, AutoCAD software, and a plotter and digitizer, is available for less than $10,000. Autodesk, however, markets only the software.

INDUSTRY MARKETS

- Seventy percent of Autodesk's fiscal 1984 revenue is expected to be derived from licensed dealers and OEMs. The remaining 30% of revenue will be generated from across industry sectors including manufacturing, architectural, and engineering firms.

- Clients include Ford Motor Company, Gerber Scientific Instruments, Heathkit Company, Chase Manhattan Bank, and Olin Corporation.

GEOGRAPHIC MARKETS

- Ninety percent of Autodesk's fiscal 1984 revenue is projected to be from the U.S. Ten percent of revenue is expected to come from foreign markets including Australia, Canada, Europe, Israel, and South Africa.

- Autodesk has branch sales offices located in the United Kingdom, Sweden, and Switzerland.

COMPUTER HARDWARE AND SOFTWARE

- Autodesk has the following equipment installed:

  - 3 Victor 9000s, MS-DOS.
  - 2 Texas Instruments Professional Computers, MS-DOS.
  - 2 IBM PCs, PC DOS.

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- 2 NEC Advanced Personal Computers, CP/M-86.
- 1 IBM PC XT, PC DOS.
- 1 TeleVideo TS 1602GH, CP/M-86.
- 1 Zenith Z100, Z-DOS.
- 1 Columbia PC, MS-DOS.
- 1 DEC Rainbow, CP/M-86.
- 1 Eagle PC, MS-DOS.
- 1 Eagle 1600, MS-DOS.

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AUTOINFO, INC.
255 West Spring Valley Avenue
Maywood, NJ 07607
(201) 712-0020

Jason Bacher, Chairman and CEO
Martin Rubin, President and COO
Public Corporation, NASDAQ
Total Employees: 50
Total Revenue, Fiscal Year End
5/31/91: $9,624,000

The Company

AutoInfo, Inc. provides communications and data base network services and turnkey systems to the automobile parts salvage and automobile casualty insurance industries. AutoInfo's products and services include the following:

- The Orion Network is a satellite-based communications and buying network for automobile parts salvage yards.
- Parts Locator is a used automobile parts data base service for automobile casualty insurers.
- AutoInfo also sells the Checkmate Computer System, an inventory system for automobile parts salvage yards.

AutoInfo currently provides services and/or products to approximately 2,000 of the 3,000 largest automobile parts salvage yards in 49 states and 8 Canadian provinces and with 13 of the 20 largest casualty insurance carriers.

AutoInfo's strategy is to continue to expand its market share through internal growth, new product development, and acquisitions.

AutoInfo's fiscal 1991 revenue reached $9.6 million, an 18% increase over fiscal 1990 revenue of $8.2 million. Net income rose 39%, from $1.7 million in fiscal 1990 to $2.4 million in fiscal 1991. A five-year financial summary follows:

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AUTOINFO, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	5/91	5/90	5/89	5/88	5/87
Revenue	$9,624	$8,152	$6,007	$2,726	$783
. Percent increase from previous year	18%	38%	120%	248%	N/A
Income (loss) before taxes	$2,621	$1,803	$639	N/A	N/A
. Percent increase from previous year	45%	182%	N/A	N/A	N/A
Net Income (loss)	$2,403	$1,726	$639	$(1,482) (a)	$(669) (a)
. Percent Increase (decrease) from previous year	39%	170%	240%	143%	N/A
Earnings (loss) per share	$0.33	$0.25	$0.10	$(0.27) (a)	$(0.17) (a)
. Percent increase (decrease) from previous year	32%	60%	137%	(59%)	N/A

(a) Includes losses from discontinued operations of $971,000 ($0.18 per share) in fiscal 1988 and $452,000 ($0.12 per share) in fiscal 1987.

Revenue for the six months ending November 30, 1991 reached $5.3 million, a 13% increase over $4.7 million for the same period in 1990. Net income declined from $1.1 million to $727,000, primarily as a result of business expansion, acquisition costs, and increased income taxes.

A summary of acquisitions made by AutoInfo follows:

- In December 1991, AutoInfo formed a joint venture with National Automotive Certification, Inc. to provide photo inspection services to the automobile casualty insurance industry. AutoInfo acquired a 51% interest in the venture in exchange for an initial cash investment of $550,000 and a commitment to fund up to a total of $1.4 million.

- In December 1991, AutoInfo acquired 38% of ComputerLogic, Inc., a provider of computerized management systems and data base services to the auto collision and parts industries. ComputerLogic offers services to auto paint distributors, collision repair shops, paint jobbers, and auto parts warehouse distributors.

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- In October 1991, AutoInfo acquired Computer Auto Salvage Ssytems, Inc. (Compass), the largest supplier of voice communication services to the auto salvage industry.

- In April 1990, AutoInfo acquired Parts Locator, Inc., a provider of voice line communications services to the automobile and motorcycle salvage industries in the western U.S.

- Also in April 1990, the company acquired Starnet, a provider of satellite-based communications services to the auto salvage industry, principally in California. Starnet's operations were integrated with AutoInfo's Orion Network.

- ADDS/Locate, Inc. (acquired in September 1990) and Recyclers Network Computer, Inc. (acquired in October 1990) were providers of computerized inventory control and management information systems to automobile parts salvage yards.

- Orion Management Corporation (acquired in 1988) and Pinnell Corporation (acquired in 1986) are satellite communications companies that provide a closed-end buying network for the automobile salvage parts industry.

As of June 1, 1991, AutoInfo had 50 employees, segmented as follows:

Software marketing and sales	10
Technical	30
Administration and clerical support	10
	50

AutoInfo's principal competitor for its Checkmate systems is Hollander Inc.

Key Products and Services

Network Services, including the Orion Network and Parts Locator, accounted for 75% of AutoInfo's fiscal 1991 revenue. The remaining 25% of revenue was derived from sales and maintenance of its Checkmate line of turnkey systems.

Network Services:

AutoInfo's Parts Locator is an on-line service that AutoInfo offers to the automobile casualty insurance industry.

- The data base for this service is selectively compiled from the parts inventories of approximately 500 automobile parts salvage yards that use AutoInfo inventory computer management

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systems. AutoInfo's host data base in Omaha (NE) is updated regularly through transmissions from the salvage yards.

- The AutoInfo Parts Locator is accessed by insurance company claims offices through a toll-free number at a cost of $7.50 for each part located.

- As of May 31, 1991, approximately 81 claims offices of 13 of the 20 largest automobile casualty insurance carriers were using the AutoInfo Parts Locator.

- In May 1988, AutoInfo entered into a non-exclusive license of its automobile salvage parts data base with ADP Automotive Claims Services (ADP/ACS), a subsidiary of Automatic Data Processing, Inc. ADP/ACS includes information obtained from AutoInfo along with information from other sources in its Salvage System data base.

The Orion Communications Network is a satellite telecommunications network marketed exclusively to automobile salvage yards, which allows them to quickly locate and purchase wholesale used auto parts.

- Currently more than 1,400 clients in the U.S. and Canada subscribe to the Orion Network, at a fee of $375 per month.

Turnkey Systems:

The Checkmate Computer System is an inventory management system that AutoInfo began marketing to the automobile parts salvage industry in March 1989.

- Checkmate consists of an integrated proprietary software package designed and developed by AutoInfo to provide inventory management, financial accounting and management reporting to automobile salvage yards. The software is packaged with an IBM PC-compatible computer and peripheral equipment into a turnkey system.

- Checkmate gives clients immediate access to used automobile parts inventory, providing information on availability, condition, and price of individual parts.

- A parts interchange data base derived from the Mitchell Interchange Manuals is integrated into Checkmate, which provides an automatic inventory-wide search for alternative parts if a specific part is not available.

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- Checkmate sells for $13,250, including hardware, software, installation, and operator training. Maintenance fees of $200 per month are also required.

In May 1991, AutoInfo introduced Checkmate Jr., a less sophisticated version of Checkmate, which sells for approximately $5,000, including hardware, software, installation, and operator training. The required maintenance plan costs $125 per month. Checkmate Jr. can be incrementally upgraded to allow the product to grow with the customer.

Over 300 Checkmate and Checkmate Jr. systems have been installed since their introduction.

AutoInfo continues to maintain and support approximately 175 client sites using the AutoInfo Yard Management System, the product that Checkmate replaces. Fees are $300 per month. AutoInfo compiles and updates used automobile parts inventories from these customers and includes this information in its AutoInfo Parts Locator Service.

Other Products And Services:

AutoInfo also offers two new products for the automobile parts salvage industry, PartPad and BidPad.

- PartPad is a hand-held data entry device for inventory management that will permit a salvage yard operator to more efficiently maintain control of yard inventory.

- BidPad is a hand-held computer system that automates a dealer's computation of the salvage value of vehicles available at auction, which will allow a dealer to access a data base of used parts values at the auction to assist him in formulating valuation for bidding purposes.

Industry Markets

AutoInfo derives 90% of its revenue from the automobile parts salvage industry and 10% from the insurance industry.

Geographic Markets

Approximately 95% of AutoInfo's revenue is derived from the U.S. and 5% from Canada.

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COMPANY
PROFILE

AUTOMATED CONCEPTS INCORPORATED

1500 Broadway
New York, NY 10039
Phone: (212) 391-2100
Fax: (212) 391-6718

President:	Frederick B. Harris
Status:	Private
Total Employees:	450
Total Revenue:	$40,200,000
FYE:	12/31/92

Key Points

- Automated Concepts Incorporated (ACI), founded in 1966, is a national information systems services consulting firm.
- ACI's Technology Training Division (TTD), based in Chicago (IL), provides comprehensive instructor-led training curricula in key technical areas on a nationwide basis.
- In 1992, more than 350 clients were served by the training division.
- ACI showed a 10.5% increase in growth in 1992.

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Company Description

Automated Concepts Incorporated (ACI), founded in 1966, is an information systems services consulting firm. The company offers a range of services, from initial project conception through system implementation, as well as education and training services.

Financials

In 1992, worldwide revenue for Automated Concepts Incorporated (net of interest expenses) was $40.2 million, a 9% increase over 1991 revenue of $36.3 million. A five-year revenue summary follows:

AUTOMATED CONCEPTS INCORPORATED
FIVE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	1992	1991	1990	1989	1988
Revenue	$40.2	$36.4	37.2	33.5	28.9
Percent increase (decrease) from previous year	10.47%	(2.23%)	11.25%	15.72%	

Employees

As of March 1992, ACI had approximately 450 employees, segmented as follows:

Marketing	10%
Customer support	5%
Research & development	5%
Computer operations	70%
General & administrative	10%
	100%

Competitors

ACI's major competitors include Andersen Consulting, Computer Task Group, Price Waterhouse & Co. and Keane. The company also has regional competitors in New York City, Chicago, New Jersey, and the Los Angeles Metropolitan area.

Key Products and Services

INPUT estimates that approximately 90% of ACI's 1992 revenue is derived from its sales of consulting and software development services and 10% from education and training.

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Professional Services

ACI's consulting support services include:

- Project planning
- Programming
- Testing and implementation
- Maintenance and enhancement
- Systems migration
- Software package and development
- Communications, real-time and systems software development
- Large scale data base management systems

Training and Education

ACI's Technology Training Division (TTD) provides training on a national basis, offering over 100 courses in the key areas of OS/2, UNIX, C, C++, modern analysis and design, and programming languages MicroFocus, COBOL, and APS.

- TTD also customizes courses for proprietary customer software. Education services include not only on-site classes, but also training documentation, student handouts, and details of variations of packaged software unique to a specific client.
- TTD markets "off the shelf" training courses designed by companies that sell packaged software. Topics include UNIX, C, ADABAS, and NATURAL.

Customers

Contract examples include the following:

- The design and implementation of a parts distribution system for Mitsubishi Electric Sales America (MESA). After the new system is

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completed, it will be used as a model for six other Mitsubishi Electronic companies.

- ACI converted and redesigned the circulation system for *The Daily News* in New York. The project entailed switching for a COBOL/DPL environment on a DEC 20 system to FOCUS running on an IBM mainframe.

Industry Markets

ACI's four top vertical industry markets for 1992 were insurance, utilities/telecommunications, banking/finance, and brokerages. ACI also has clients in aerospace, consumer products, electronics, entertainment, the federal government, health care, manufacturing, petrochemicals, pharmaceuticals, and state and local government.

Clients include AT&T, Citibank, the U.S. Department of the Interior, Ford Aerospace, Metropolitan Life, NBC, Public Service Electric & Gas, Shearson Lehman Hutton, and Spiegel.

Geographic Markets

ACI has U.S. regional offices in Chicago (IL), Los Angeles (CA), New York, (NY), Washington, D.C. and Woodbridge (NJ).

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COMPANY PROFILE

AUTOMATED CONCEPTS
INCORPORATED
386 Park Avenue South
New York, NY 10016
(212) 725-4540

Fredrick Harris, President
Private Corporation
Total Employees: 345
Total Revenue, Fiscal Year End
12/31/85: $20,500,000

THE COMPANY

- Automated Concepts Incorporated (ACI), founded in 1966, provides professional services to a variety of industries.

- 1985 revenue reached $20.5 million, an increase of 24% over 1984 revenue of $16.5 million. A five-year revenue summary follows:

ACI
FIVE-YEAR REVENUE SUMMARY
($ thousands)

ITEM / FISCAL YEAR	1985	1984	1983	1982	1981
Revenue	$20,500	$16,500	$14,000	$11,500	$12,800
. Percent increase (decrease) from previous year	24%	18%	22%	(10%)	7%

- ACI's competitors include AGS Computers, Computer Task Group, and Keane, among others. The company also has regional competitors in the New York City, Chicago, New Jersey, and Los Angeles metropolitan areas.

KEY PRODUCTS AND SERVICES

- One hundred percent of ACI's 1985 revenue was derived from professional services. Approximately 95% was derived from consulting and software development services and 5% from education and training.

- ACI's consulting support services include:

  - Feasibility studies.
  - Systems analysis and design.
  - Programming.
  - Software development.
  - Project management and control.
  - Technical and user documentation.
  - Conversions.

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- ACI also provides specialized support capabilities for data base design and on-line systems.

- Contract examples include the following:

  - ACI played a major role in customizing and installing a distribution control system for Paramount Home Video, a wholly owned subsidiary of Paramount Pictures Corporation. ACI staff was involved in all phases of developing an accounting and sales analysis package, including systems analysis and design, programming, and management of the production support function.

  - ACI designed and programmed an automated bus scheduling system for New York City's Metropolitan Transportation Authority.

  - ACI designed and built a message switching system for the Midwest Stock Exchange.

  - ACI played a major role in the design, development, and implementation of SONIC, a sales office network of intelligent computers, for Metropolitan Life.

    - SONIC links 1,050 domestic and 150 Canadian Metropolitan offices. The hardware includes 1,200 Honeywell DPS 6/40 minicomputers supporting 3,000 Honeywell terminals.

    - ACI was instrumental in developing the methodology used to support the SONIC system at each location and also supported the development and implementation of the communication link between Honeywell and IBM equipment at Metropolitan's data center.

- ACI's educational services specialize in instructor-led courses and hands-on workshops for IMS and CICS training.

  - The courses are available at the client site or as consortium/public courses.

  - Additional classes are offered for TSO/SPF, JCL/Utilities, PL/I Dump Analysis, Screen Design, and VSAM.

  - During April 1985 ACI announced its IDMS Training Program which includes a series of 13 courses.

INDUSTRY MARKETS

- ACI's four top vertical industry markets for 1985 were insurance, utilities/telecommunications, banking/finance, and brokerage, in that order. ACI also has clients in hardware manufacturing, pharmaceuticals, publishing, transportation, health care, entertainment, and state and local government.

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GEOGRAPHIC MARKETS

- One hundred percent of ACI's 1985 revenue was derived from the U.S. The majority of revenue is distributed through the company's four regional offices in New York City, Chicago, Lyndhurst (NJ), and Cerritos (CA).

COMPUTER HARDWARE AND SOFTWARE

- ACI has a number of IBM PCs, an AT&T UNIX system, and an Altos computer for internal use. All work for clients is performed at the clients' site with clients' equipment.

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COMPANY PROFILE

AUTOMATED CONCEPTS INCORPORATED
386 Park Avenue South
New York, NY 10016
(212) 725-4540

Fredrick Harris, President
Private Corporation
Total Employees: 345
Total Revenue, Fiscal Year End 12/31/84: $16,500,000

THE COMPANY

- Automated Concepts Incorporated (ACI), founded in 1966, provides professional services to a variety of industries.

- 1984 revenue reached $16.5 million, an 18% increase over 1983 revenue of $14 million. A five-year revenue summary follows:

ACI
FIVE-YEAR REVENUE SUMMARY
($ thousands)

FISCAL YEAR / ITEM	1984	1983	1982	1981	1980
Revenue	$16,500	$14,000	$11,500	$12,800	$12,000
. Percent increase (decrease) from previous year	18%	22%	(10%)	7%	11%

- ACI's competitors include Computer Horizons, CGA Computer, Inc., and AGS Computers. The company also has regional competitors in the New York City, Chicago, New Jersey, and Los Angeles metropolitan areas.

KEY PRODUCTS AND SERVICES

- One hundred percent of ACI's 1984 revenue was derived from professional services. Approximately 95% was derived from consulting and software development services and 5% from education and training.

- ACI's consulting support services include:

  - Feasibility studies.
  - Systems analysis and design.
  - Programming.
  - Software development.
  - Project management and control.
  - Technical and user documentation.
  - Conversions.

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- ACI also provides specialized support capabilities for data base design and on-line systems.

- Contract examples include the following:

  - ACI played a major role in customizing and installing a distribution control system for Paramount Home Video, a wholly owned subsidiary of Paramount Pictures Corporation. ACI staff was involved in all phases of developing an accounting and sales analysis package, including systems analysis and design, programming, and management of the production support function.

  - ACI designed and programmed an automated bus scheduling system for New York City's Metropolitan Transportation Authority.

  - ACI designed and built a message switching system for the Midwest Stock Exchange.

  - ACI played a major role in the design, development, and implementation of SONIC, a sales office network of intelligent computers, for Metropolitan Life.

    - SONIC links 1,050 domestic and 150 Canadian Metropolitan offices. The hardware includes 1,200 Honeywell DPS 6/40 minicomputers supporting 3,000 Honeywell terminals.

    - ACI was instrumental in developing the methodology used to support the SONIC system at each location and also supported the development and implementation of the communication link between Honeywell and IBM equipment at Metropolitan's data center.

- ACI's educational services specialize in instructor-led courses and hands-on workshops for IMS and CICS training.

  - The courses are available at the client site or as consortium/public courses.

  - Additional classes are offered for TSO/SPF, JCL/Utilities, PL/I Dump Analysis, Screen Design, and VSAM.

  - In April 1985 ACI announced it would be offering an IDMS Training Program via a series of 13 courses beginning during the summer of 1985.

INDUSTRY MARKETS

- ACI's 1984 revenue was derived primarily from the banking and finance industry, state and local government, and Fortune 500 companies. ACI has clients in hardware manufacturing, pharmaceuticals, publishing, finance,

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insurance, utilities and energy, transportation, health care, entertainment, and state and local government.

GEOGRAPHIC MARKETS

- One hundred percent of ACI's 1984 revenue was derived from the U.S. The majority of revenue is distributed through the company's four regional offices in New York City, Chicago, Lyndhurst (NJ), and Cerritos (CA).

COMPUTER HARDWARE AND SOFTWARE

- ACI has the following microcomputers installed:
  - 6 IBM PC/XTs, PC-DOS
  - 1 IBM PC/AT, PC-DOS.

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COMPANY HIGHLIGHT

AUTOMATED CONCEPTS, INC.
386 Park Avenue South
New York, NY 10016
(212) 725-4540

Fredrick Harris, President
Private Corporation
Total Employees: 325
Total Revenues, Fiscal Year End
12/31/80: $12,000,000

PRINCIPAL BUSINESS Automated Concepts, Inc. (ACI), formed in 1966, provides professional services and turnkey systems.

FINANCIALS

	1980	1979	1978	1977	1976
			($ thousands)		
- Total revenues	$12,000	$10,800	$9,000	$5,500	$3,200
- Percent increase from previous year	11%	20%	64%	72%	—

SOURCES OF REVENUE

- 95% Professional services.
- 5% Turnkey systems.

PRODUCTS AND SERVICES

- ACI provides professional services in the areas of data base design and implementation, on-line systems, distributed processing and minicomputer systems. General support services include:

  - Feasibility studies.
  - System analysis and design.
  - Program design and implementation.
  - Project management and control.
  - Building to structured design techniques.
  - Technical and user documentation.
  - Assembler and higher level language training.

- Specialized ACI support capabilities for IBM's data base management system, IMS, and teleprocessing monitor, CICS, include:

  - IMS and CICS training courses.
  - Data base design.
  - Network analysis and design.
  - Development of standards and procedures.

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- System generation, modification and programming support.
- System performance measurement and tuning.

- ACI's support services for DEC PDP-11, Data General and NEC minicomputers include:

  - Customized turnkey installations.
  - Hardware and software selection.
  - Site selection and preparation.
  - Documentation and user training.
  - Systems operations consulting.

- In 1979 ACI introduced a turnkey system for distribution firms with revenues of $5 to $20 million. The system consists of NEC Model 210 to 260 minicomputers and ACI general accounting software. With 12 systems currently installed, purchase prices range from $30,000 to $100,000.

INDUSTRY MARKETS

- ACI provides professional services to almost all Fortune 500 industry sectors, with concentrations in the utilities, banking and finance, and insurance industries.

GEOGRAPHIC MARKETS

- ACI revenues are all derived domestically. The majority of revenues are from the Middle Atlantic and New England states, with smaller concentrations in the East North Central and Pacific regions.

- Offices are located in Century City, CA; Chicago; New York; Stamford and Hartford, CT; and Lyndhurst, NJ.

COMPUTER HARDWARE

- 1 NEC 250, ASTRA/OS.
- 1 DEC PDP-11/34, RSX-11M.

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Dick Stanforth EVP

Dropped

COMPANY HIGHLIGHT

AUTOMATED DATA SERVICES, INC.
105 West 4th Street
Cincinnati, OH 45202
(513) 579-0666

Jay Hilnbrand, President
Private corporation
Total employees: 35
Total revenues, fiscal year end 5/31/78: $2,000,000 approx.
Computer services revenues: $1,900,000*

THE COMPANY

- Automated Data Services, Inc. (ADS) was founded in Ohio during 1967 as a supplier of batch processing services. Today ADS provides approximately 120 customers, primarily distributors, with processing services and turnkey systems. Management indicates that the general direction of the company is away from batch processing and toward turnkey systems and remote computing.

- The approximately 35 employees are distributed as follows:

Marketing/sales	10%
Software services/customer support (includes programmers and two liaison people)	30
Computer operations (includes keypunch personnel)	45
General and administrative	15
	100%

KEY PRODUCTS AND SERVICES

- ADS offers primarily batch processing services, as indicated by the following distribution of revenues for fiscal 1978:

- Processing		85%
Batch	72	
Remote batch	13	
- Turnkey systems		10
- Professional services		5
		100%

*INPUT estimate

September 1978

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- Processing services are comprised of general business applications, such as accounts payable, accounts receivable, and general ledger, and industry specialty applications. These are general business type applications tailored to services firms and distributors.

- For each of the approximately five turnkey systems installed, a DEC PDP-8 minicomputer has been used.

  - Turnkey systems provide mostly accounting applications tailored to the garment care industry.
  - OEM purchased hardware represents nearly half of turnkey systems revenue.
  - The number of turnkey installations is expected to increase to about 15 by the end of fiscal 1979.
  - Management states that some turnkey systems will be converted to remote batch terminals.

- Professional services provided are comprised mostly of feasibility studies and consulting.

- ADS occasionally performs data entry services for other computer services companies, but this represents a negligible portion of revenues.

APPLICATIONS Sixty percent of processing services revenues are generated by general business applications. Industry specialty applications account for the other 40%.

INDUSTRY MARKETS The majority of ADS's business is derived from the distribution industry, as indicated by the following industry sources of revenues for fiscal 1978:

Retail and wholesale distribution (including several apparel distributors)	90%
Manufacturing (discrete and process)	5
Services (mostly garment care and linen supplies)	5
	100%

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GEOGRAPHIC MARKETS Batch customers are concentrated mostly in the Eastern and Southern portions of the U.S., particularly southern Ohio. Turnkey system customers are more evenly distributed throughout the U.S. Revenues are distributed approximately as follows:

Eastern North Central states (mostly southern Ohio)	83%
Middle Atlantic states	5
New England states	2
South Atlantic states	2
East South Central states	2
Pacific states	2
West North Central states	1
Mountain states	1
Canada	2
	100%

COMPUTER HARDWARE AND SOFTWARE

- Computer systems used to provide processing services are:
  - 2 RCAs running under DOS.
  - 1 DEC PDP-8 which is used primarily as a remote batch terminal.
- DEC PDP-8 minicomputers are used in turnkey installations.

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COMPANY PROFILE

AUTOMATED LANGUAGE PROCESSING SYSTEMS, INC.
295 Chipeta Way
P.O. Box 8719
Salt Lake City, UT 84108
(801) 584-3000

A.T. Zirkle, President and CEO
Public Corporation, OTC
Total Employees: 88
Total Revenue, Fiscal Year End:
12/31/86: $4,357,201

THE COMPANY

- Automated Language Processing Systems (ALP Systems), founded in January 1980, develops and sells computer software for natural language processing worldwide.

- Revenue for 1986 was $4.4 million, 240% increase over 1985 revenue of $1.3 million. Net income in 1986 was $488,000 compared to net losses of $4.2 million in 1985. A three-year financial summary follows:

AUTOMATED LANGUAGE PROCESSING SYSTEMS
THREE-YEAR FINANCIAL SUMMARY
($ thousands)

ITEM / FISCAL YEAR	1986	1985	1984
Revenue	$ 4,357	$ 1,281	$ 635
. Percent increase (decrease) from previous year	240%	102%	(30%)
Income (loss) before taxes	$ 488	$ (4,196)	$ (5,951)
. Percent increase (decrease) from previous year	112%	29%	(87%)
Net income (loss)	$ 488	$ (4,196)	$ (5,951)
. Percent increase (decrease) from previous year	112%	29%	(87%)
Earnings (loss) per share	$ 0.08	$ (1.54)	$ (2.21)
. Percent increase (decrease) from previous year	105%	30%	(81%)

- In June 1986, ALP Systems completed its initial public offering of 1,265,000 shares of common stock. Net proceeds of approximately $6.6 million were used to pay off short-term debt, acquire equipment to enhance software development capabilities, and provide operating funds for future growth.

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- ALP Systems has formed two foreign subsidiaries as follows:

  - A.L.P. Systems S.A., located in Neuchatel, Switzerland, was formed in 1984. The wholly owned subsidiary markets and supports the company's translation products, develops new products, and provides research and development capabilities to fulfill major customer contracts in Europe.

  - Automated Language Processing Systems, Ltd., located in Oakville, Ontario, Canada, was founded in 1986 and as of December 31, 1986 had not commenced operations.

- Prior to 1986 ALP Systems provided translation services to translate documents from one language to another. The company decided to discontinue these services because of possible competition with potential customers and significant operating costs in relation to revenues received.

- As of December 31, 1986, ALP Systems had 88 employees. Currently there are 109 employees, segmented as follows:

Marketing/sales	14
Software services/technical support	13
Computer operations	69
General and administrative	13
	109

- Major competitors include World Translation Corporation, Widner Communications, Inc., Logos Computer Systems, Inc., Ericsson, Inc., and Sieman Corporation.

KEY PRODUCTS AND SERVICES

- All of ALP Systems' 1986 revenue was derived from software products (84% from software license fees and 16% from maintenance and support fees). Prior to 1986 ALP Systems provided translation services and resold computer hardware. A three-year source of revenue summary follows ($ thousands):

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FISCAL YEAR / ITEM	1986		1985		1984	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Computer services						
. Software license fees	$3,677	84%	$ 985	77%	$140	22%
. Maintenance	680	16	144	11	202	32
Total computer services revenue	$4,357	100%	$ 1,129	88%	$342	54%
Noncomputer Services						
. Translation services	-	-	$ 25	2%	$164	26%
. Hardware sales	-	-	127	10	129	20
Total revenue	$4,357	100%	$ 1,281	100%	$635	100%

- ALP Systems derives software revenue from major sales agreements with leading manufacturers of computer hardware and other large volume software customers.

  - In 1986, ALP Systems completed a contract with IBM World Trade to make its Translation Support System (TSS) available on the IBM PC/AT and on IBM mainframe computers.

  - Contracts have been signed with DEC and Unisys to make TSS operational on their hardware. ALP also has a contract with NCR.

- ALP Systems' software products are used in the natural language processing segment of the artificial intelligence industry and provide computer-aided translation of various natural languages. Translation products include the following:

  - TransActive produces a draft translation of each sentence in a text on a computer screen, complete with grammatical processing for word order and agreement. The linguistic processing is guided by the translator's interaction with the computer.

    . Currently, TransActive is available for English to French, English to German, English to Spanish, and English to Italian.

  - AutoTerm provides automatic word-for-word lookup, with the computer providing translation equivalents for specified words or phrases.

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  - AutaTerm is available for translation fram English, French, Spanish, Partuguese, German, and Italian inta mast languages using the Raman alphabet.
  - A Russian ta English AutaTerm praduct, using the Cyrillic alphabet is alsa available.

- PeriPhrase is a high-level programming language designed specifically far natural language processing. PeriPhrase contains a set af natural language processing develapment taals that enables users ta write programming pracedures in linguistic terms.
  - The product is currently usable for the development af software praducts far French, Spanish, and Italian.
  - ALP Systems is currently using PeriPhrase to develap saftware praducts far English and German.

- In December 1986, ALP Systems signed an agreement with IBM ta pravide a system ta translate English inta Japanese, Karean, mainland Chinese, and Taiwan Chinese.
- Preliminary feasibility studies are underway to develop software far Arabic and Hebrew.
- MacPraaf is a spelling and style checker that checks the user's compasitians far spelling, capitalizatian, punctuation, usage, grammar, and structural accuracy.
  - MacPraof aperates an the Apple Macintash and is available in a stand-alone versian or a networked version. Dacument Revisian Facility, a saftware package far reviewing dacuments praduced in affice autamation environments, is in testing.
  - MacProof retails for $195 at majar camputer dealers.
- Praducts presently in develapment far 1987 market intraductian include PC-Praaf, a spelling and style checker far IBM PCs and campatibles; multilingual grammar checkers; on-line dictianaries; and translation saftware for general affice use.

INDUSTRY MARKETS

- ALP Systems derives its revenue from majar camputer hardware manufacturers, distributors, and dealers.
- IBM accaunted far appraximately 47% and 44% af tatal 1986 and 1985 revenue, respectively.

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GEOGRAPHIC MARKETS

- Approximately 70% of 1986 revenue was derived from the U.S. The remaining 30% was derived from international sources, primarily Europe and Asia. U.S. revenue accounted for 80% and 100% of total 1985 and 1984 revenue, respectively.

- In addition to its subsidiary locations in Oakville (Ontario, Canada) and Neuchatel (Switzerland), ALP Systems maintains offices in Salt Lake City and Provo (UT) and Vienna (VA).

COMPUTER HARDWARE AND SOFTWARE

- ALP Systems maintains the following equipment:

  - Salt Lake City.

    - 1 Data General MV 8000, AOS/VS.
    - 1 Data General MV 6000, AOS/VS.
    - 1 Data General MV 4000, AOS/VS.
    - 2 DEC MicroVAX IIs, Micro VMS.

  - Switzerland.

    - 3 Data General MV 4000s, AOS/VS.

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AUTOMATED SYSTEMS CONSULTANTS, INC.
10820 West 64th Street
Shawnee, KS 66203
(800) 255-0424

A. Lee Holt, President
Private Corporation
Total Employees: 90
Total Revenue, Fiscal Year End 9/30/87: $3,000,000

The Company

Automated Systems Consultants, Inc. (ASCI) was formed in September 1980 to provide custom software/contract programming professional services to business and government. During 1988 the company expanded its offerings to include turnkey retail point-of-sale (POS) systems.

ASCI's fiscal 1987 revenue reached $3 million, a 33% increase over fiscal 1986 revenue of $2 million. ASCI management anticipates that fiscal 1988 revenue will reach $5 million.

- Company management attributes revenue growth to increased sales and new contracts and its growing reputation for providing quality work.
- The company has operated profitably since 1980.

Major competitors, by product/service area, include the following:

- Professional services: Analysts International, Computer Task Group, and CAP Gemini.
- POS systems: NCR, IBM, and MICROS.

Key Products and Services

Approximately 98% of ASCI's fiscal 1987 revenue was derived from professional services and 2% from systems integration activities.

Professional services provided by ASCI include consulting, programming support, conversions, systems analysis and design, small systems software support/maintenance, systems engineering, and facilities management. ASCI personnel has expertise and work experience in the following areas:

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- Hardware: Amdahl; Basic/Four; Control Data; Data General; DEC VAX PDP 11; General Automation; Hewlett Packard; Honeywell; IBM 34, 36, 38, 360, 370, 30xx, 43xx, PCs, and Series 1; Magnuson; Modcomp; NCR; Texas Instruments 990; Unisys; and Wang VS.

- Languages: Assembler, BAL, BASIC, C, COBOL, FMS, FOCUS, Fortran, IDEAL, Librarian, MANTIS, MARK IV, Panvalet, PASCAL, PL/1, QUICK JOB, RPG II, III, and UTILITIES.

- Software: ADA/YOURDAN, ADR/DATACOMM, CICS, DB2, DL/1, DOS/VSE, E/1, IDMS/ADSO, IMS/DB/DC, JES, McCormack & Dodge, Management Science America, MS/DOS, OS/MVS, RDB, TCAM, TOTAL, TSO/ISPF, VM/CMS, VMS, VSAM, and VTAM.

- The company provides its services under both fixed-price and time and materials contracts. The length of contracts ranges from one month to three years, with an average contract running six months.

  - Certain repeat customers have been ASCI clients for six to seven years.

  - The company currently is performing its services under 25 contracts.

Project examples include the following:

- Data base conversion from TOTAL to ADABAS for the State of Kansas.

- Total automation of the Veterans Administration's finance center under a $3 million contract ($1 million in hardware and $2 million in software and maintenance services).

- Other projects have been performed for clients such as Marion Laboratories, DST Systems, H&R Block, American Multi-Cinema, U.S. Sprint Communications, Deutz-Allis, Management Sciences Associates, Olin (Defense Systems Group), and Bulter Manufacturing Company.

During 1988 the company introduced its ASCI POS system which can be customized to accommodate retail organizations of any size.

- The system uses 80386-based microcomputers running under

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MS/DOS, UNIX, or XENIX with the Novell LAN.

- Features include automatic reorder by predetermined quantities or seasonal trends, auto-dial to mainframe, communications conforming to EDI standards, cash control management, credit and check verification, cash drawer control, optional receipt printout, and automatic deposit via ACH.

- The system is based on ASCI's Retail Ring™ concept which supports electronic communications between the stores and/or dealers, the retailer's central office, vendors, and banking institutions.

- Pricing starts at $5,995 per station, which includes hardware and software.

Industry Markets

ASCI's fiscal 1987 revenue from its professional services was derived from clients in various industries, including discrete and processing (pharmaceuticals) manufacturing, banking and finance, services, and recreation and entertainment (theatres), as well as federal and state and local government.

With the introduction of its POS system, ASCI also targets the retail/distribution industry.

Geographic Markets

One hundred percent of ASCI's revenue is derived from the U.S.

In addition to its headquarters, ASCI also has offices in St. Louis (MO) and Omaha (NE).

Computer Hardware

ASCI has the following computers installed in support of its professional services and POS activities:

- 1 Tandem NonStop II.
- 10 IBM ATs, MS-DOS.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1996

Automatic Data Processing, Inc.

Chairman & CEO: Josh S. Weston
President & COO: Arthur F. Weinbach
One ADP Boulevard
Roseland, NJ 07068
Phone: (201) 994-5000
Fax: (201) 994-5387
Internet: http://www.adp.com

Status:	Public
Employees:	22,000 (6/96)
Revenue:	$2,893,742,000
Fiscal Year End:	6/30/95

Key Points

- Automatic Data Processing, Inc. (ADP) provides computerized transaction processing, data communications, software, and information services, and is the leader in providing payroll processing services. ADP processes paychecks for more than 18 million U.S. workers.
- In May, 1996, ADP announced the first CD ROM application for payroll processing.
- In May, 1996, ADP announced CSS HRizon™ Alliance, the company's new IT outsourcing solution for the Human Resource Management System.
- In March 1996, Josh S. Weston, chairman and CEO of ADP, announced that effective August 1, 1996, he would relinquish his position as CEO but retain his title as chairman of the board. Arthur F. Weinbach, currently president and chief operating officer, has been elected by the board of directors to the position of president and CEO effective August 1, 1996.
- In January 1996, ADP acquired the Troy (MI)-based Sandy Corporation, a leading performance-improvement company.

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- In January 1996, ADP and SAP® America, Inc. announced an alliance to provide clients of SAP's R/3 enterprise applications software with a standard interface to ADP's payroll outsourcing services.

- In October 1995, ADP acquired control of GSI, a leading European computer services company based in France. This acquisition is expected to position ADP to become the leader of payroll and human resource information services in Europe.

- During 1995, ADP acquired The Applications Group, a leading San Francisco-based client/server and HR software implementor.

- In early 1996, the company acquired Wilco International, a provider of multicurrency international clearance and settlement systems, providing international expansion opportunities for ADP.

- Brokerage Services now provides market data services to 96,000 investment professionals in more than 1,200 firms.

- Dealer Services is currently serving 13,000 clients with more than 100,000 installed applications and more than 160,000 computer devices.

Company Description

ADP was formed in 1949 as Automatic Payrolls, Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961, ADP computerized its operations and went public.

Payroll and related services still provide the major share of ADP's revenue; however, the company also derives significant revenues from brokerage services, services to automotive dealers, and claims services for property and casualty and the collision repair industry.

The company provides computerized transaction processing, data communications, and information services to more than 350,000 clients worldwide.

ADP services include payroll, payroll tax, and human resource information management; brokerage industry market data, securities transaction processing, and investor communication services; industry-specific computing and consulting services for auto and truck dealers; and computerized auto repair estimating, auto parts availability services, and fee and utilization audits of bodily injury claims.

On January 1, 1996, the company's common stock was split two for one.

Structure and Operations

ADP is currently organized into four major groups as follows:

- Employer Services provides payroll processing, payroll tax filing, job costing, labor distribution, unemployment compensation management, and personnel information services, as well as payroll processing services. This unit also administers a shrinking batch Accounting Services business providing generic accounts receivable, accounts payable, time analysis, and general ledger/financial reporting transaction processing services.

- The Brokerage Services Group includes the following businesses:

  - Information and Processing Services (formerly two separate divisions made up of Front-office and Back-office) provides

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real-time quotation/financial information services and securities operations services.

- Investor Communication Services (formerly Proxy Services) provides shareholder mailing services. It processed over 200 million shareholder mailings and electronically processed ballots representing 69 billion shares in 1995.

- ADP Dealer Services provides processing and network services and turnkey systems to auto, truck, farm, and heavy equipment dealerships in the U.S., Canada, and Europe.

- ADP Claims Solutions Group provides claims estimating processing services and electronic information services for auto, physical damage, property damage, and bodily injury claims analysis.

Company Strategy

ADP's growth strategies are primarily focused on expanding the leadership positions of its core businesses by providing new products and superior service to its clients, as well as through the use of strategic acquisitions. Key growth strategies include:

- Delivering superior service to enhance value and improve client retention

- Providing ancillary products and services that create incremental value for existing clients

- Increasing market penetration by broadening product lines and expanding distribution channels

- Expanding existing business internationally

- Entering new markets that complement and leverage its core competencies and businesses

In the Employer Services area, ADP intends to expand its client-site products and services.

In the Brokerage Services area, ADP intends to become a major multinational provider of market data services.

In the Dealer Services area, ADP intends to become the leading global supplier of turnkey systems to auto dealerships.

Financials

ADP reported revenue of nearly $2.9 billion for fiscal 1995, a 21% increase over fiscal 1994 revenue of $2.4 billion. Net income reached $394.8 million, an increase of 20% over net income of $329.3 million the previous year.

A five-year financial summary appears on the following page.

ADP management attributed revenue growth in fiscal 1995 to the expansion of its client base, new product offerings, and acquisitions, with relatively minor contributions from price increases.

- Employer Services' revenue grew 13% in fiscal 1995, up from the 9% growth rate in fiscal 1994. Operating margins were approximately 26% in fiscal 1995, 27% in fiscal 1994, and 26% in fiscal 1993.

  - Client retention increased in fiscal 1995, and new client sales rose 15%.

  - Three relatively small acquisitions also contributed to Employer Services' growth.

  - Excluding the effect of the acquisitions, revenue growth would have been approximately 10%.

- Brokerage Services' revenue grew 8% in fiscal 1995, 20% in fiscal 1994, and 23% in 1993. The group's operating margin was

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approximately 15% in fiscal 1995, down from 16% in 1994.

- Brokerage Services began to benefit in fiscal 1992 from improved Wall Street trading volumes, which had previously been adversely affected in the years subsequent to the October 1987 market crash. The improved conditions continued in fiscal 1994 and 1995.

- Brokerage Services' pretax margin was approximately 15% in fiscal 1995, after absorbing losses from the recently acquired international quote services business referred to above.

Automatic Data Processing, Inc.
Five-Year Financial Summary
($ Millions, except per-share data)

	Fiscal Year				
Item	6/95	6/94	6/93	6/92	6/91
Revenue	$2,893	$2,468.0	$2,223.4	$1,940.6	$1,771.8
• Percent change from previous year	17%	11%	15%	10%	3%
Income before taxes	$534.3	$446.3	$386.6	$341.6	$299.6
• Percent change from previous year	20%	15%	13%	14%	5%
Net income	$394.8	$329.3	$294.2	$256.2	$227.7
• Percent change from previous year	20%	12%	15%	13%	8%
Earnings per share	$2.77	$2.34	$2.08	$1.84	$1.63
• Percent change from previous year	18%	13%	13%	13%	13%

- Dealer Services' revenue grew 32% in fiscal 1995 and 22% in fiscal 1994 as a result of improved industry conditions and several small acquisitions.

  - Operating margins were approximately 20% in fiscal 1995 and fiscal 1994, up from approximately 15% in fiscal 1993 and 1992.

  - Excluding the effects of the acquisitions, revenue growth would have been approximately 18%.

A three-year summary of source of revenue by major operating group is shown below.

Systems development and programming expenditures were approximately $193.2 million (7% of revenue) in fiscal 1995, $160.8 million (7% of revenue) in fiscal 1994, and $132.4 million (6% of revenue) in fiscal 1993. Investments have increased, especially in Employer Services, to accelerate automation, migration to new computing technologies, and development of new products.

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Source of Revenue by Product/Service

INPUT estimates that ADP's fiscal 1995 revenue was derived approximately as follows:

Processing services	72%
Network services	12%
Turnkey systems	16%
	100%

Automatic Data Processing, Inc.
Three-Year Source of Revenue Summary
($ Millions)

	Fiscal Year					
	6/95		6/94		6/93	
Item	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Employer Services	$1,615	56%	$1,424	58%	$1,311	59%
Brokerage Services	657	23%	606	25%	505	23%
Dealer Services	440	15%	334	13%	274	12%
Claims Services and other (a)	182	6%	105	4%	133	6%
Total	$2,894	100%	$2,469	100%	$2,223	100%

(a) Includes services for auto claims, wholesalers, and European payroll users.

Interim Results

Revenue for the nine-month period ended March 31, 1996, was approximately $2.6 billion, up 24% from $2.1 billion during the same period the previous year. Net income reached $334.7 million for the period, an increase of 16% year to year.

Market Financials

ADP's revenue is primarily derived from various businesses, banks, and CPAs for payroll and related services; automotive dealerships and manufacturers; and brokerage firms and insurance companies.

- Employer Services has more than 350,000 clients from a large variety of industries and markets.
- Brokerage Services primarily serves the retail brokerage market, but also services banks, commodity dealers, the institutional brokerage market, and individual nonbrokerage corporations.
- Dealer Services primarily serves auto dealerships, but also serves agricultural equipment dealers, auto repair shops, used car lots, state departments of motor vehicles, and manufacturers of autos, trucks, and agricultural equipment.
- The Claims Solutions Group has many insurance company clients, but also provides services to auto manufacturers, body repair shops, salvage yards, distributors of new and used auto parts, and other noninsurance clients.

Geographic Markets

Approximately 91% of ADP's revenue is derived from U.S. operations, with the remainder from the U.K., Western Europe, and Canada.

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In fiscal 1995, the company's international revenue was over $225 million, predominantly from businesses in Canada and Europe.

Acquisitions

In January 1996, ADP acquired Sandy Corporation of Troy, (MI).

- Each outstanding share of Sandy stock was exchanged for approximately 0.33 shares of ADP common stock, in a transaction valued at nearly $30 million.
- Sandy, a leading performance-improvement company, provides consulting, training, and communication services to the automotive industry, both at the dealer and manufacturer levels.
- Sandy Corporation had revenues last year of over $50 million.
- Sandy will now become a part of ADP's Dealer Services Group.

During 1995, ADP purchased several businesses for an aggregated total of approximately $107 million in cash and $16 million in common stock. The company also acquired several businesses that were accounted for as poolings of interest, in exchange for an aggregated total of approximately 1.2 million shares of common stock.

- In October 1995, ADP acquired control of GSI, a leading computer services company based in Paris (France). ADP now controls over 80% of the shares of GSI and expects to complete the purchase of close to 100% of GSI.
  - ADP has entered into an agreement to acquire for cash all of the outstanding shares of GSI.
  - The transaction is valued at FF 23 billion (approximately U.S. $460 million) and is subject to GSI shareholder and various governmental approvals.
  - GSI had revenues last year in excess of FF 2 billion (U.S. $400 million).
  - GSI has more than 3,000 employees, with operations in France, Germany, Italy, Spain, Switzerland, and the U.K.
  - The acquisition of GSI is expected to dilute ADP's fiscal 1996 earnings per share by 1% to 2%.
- In March 1995, ADP acquired Turbodata, a leading European auto dealer services company with 3,000 auto dealer clients in Benelux, France, and Germany.
- ADP Nederland, ADP's Dutch subsidiary, acquired Infotech, the leading provider of employer services to temporary employment agencies.
- ADP Brokerage Services acquired Wilco International, provider of multicurrency clearance and settlement services for international securities, and the GLOSS client/server system. This acquisition provides substantial international expansion opportunities for the company.
- ADP acquired Shark Information Services, a provider of real-time market information and sophisticated analytics to 5,000 institutional users.
- ADP's Claims Services Group acquired the AutoInfo salvage yard network.
- In January 1995, ADP acquired WTR, a leading benefits consulting and actuarial firm.

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Employees

As of June 15, 1996, ADP had approximately 22,000 employees.

Key Products and Services

Employer Services

ADP Employer Services offers a range of payroll and payroll-related services, including payroll processing, tax filing, human resource recordkeeping and reporting, 401(k) recordkeeping and reporting, timekeeping systems, and unemployment compensation management. On payday, ADP pays more than 18 million U.S. workers for more than 300,000 clients of all sizes in virtually every business sector.

- Payroll and tax filing services comprise over 80% of the revenues of the Employer Services Group.
- In addition to marketing its services directly, ADP has marketing relationships with many banks and CPAs whereby ADP offers its services to their clients and prospective clients.
- Employer Services are offered from 39 ADP regional processing centers located throughout the U.S. ADP also has data processing centers in Western Europe (4) and Canada (1).

ADP's payroll and payroll tax collection and filing services are Employer Services' largest single form of service.

- Such services consist primarily of the preparation and furnishing of employee paychecks and direct deposit advises, along with the necessary supporting journals, summaries, and other reports.
- As part of its regular services, ADP supplies each client with the quarterly and annual Social Security, Medicare, and federal, state, and local income tax withholding reports required to be filed by employers, W-2 withholding statements for employees, a complete record of payments for each pay period, and a quarterly historical earnings record for each employee.
- Payroll services also include the preparation of statistical and audit reports for use in client management, such as payroll and job cost distribution reports, welfare and pension fund reports, and a payroll audit report.
- AutoPay is ADP's most flexible and comprehensive payroll product, with over 200,000 clients.
- AutoPay I Payroll service targets small clients with 5 to 19 employees.
- ADP's AutoPay II payroll service focuses on companies with 25 to 500 employees. ADP has more than 200,000 clients in this segment.
- AutoPay Plus, introduced in 1983, includes an integrated payroll and tax filing service for companies with fewer than 25 employees.
- The National Accounts Division sells payroll services to companies with over 1,000 employees.
- More than 95,000 ADP payroll clients now use microcomputers for payroll input to ADP.
  - The PC/Payroll service is targeted to accounts with 50 or more employees.
  - EasyPay, introduced in late 1989, is a simplified PC service for smaller payroll clients.

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- Direct Payroll Access (DPA), introduced in 1993, enables PC-based clients who prefer more on-site control to use ADP's payroll, direct deposit, and tax filing services, while having the capability to directly access their payroll data on a PC and to print their paychecks and standard reports on site.

- ADP's automated payroll tax collection and filing service processes federal, state, and local payroll withholding taxes on behalf of ADP clients, and remits such taxes to the appropriate taxing authorities when due. About 75% of ADP's payroll clients also use ADP's tax filing service.

- Approximately 44% of Employer Services' payroll and payroll tax filing services revenue for the past three fiscal years came from ADP's heartline accounts (companies with fewer than 100 employees), 39% from major accounts (companies with 100 to 1,000 employees), and 17% from national accounts (companies with over 1,000 employees).

ADP now also offers client-site software systems for clients who prefer enhanced control and lower cost solutions by taking on payroll preparation in-house.

- CSS HRizon™, previously called the Client Server Series (CSS) HRMS, is a client/server Human Resource Management System offered by the National Accounts Division.

  - CSS HRizon is made up of four integrated functional modules—Human Resources, Benefits Administration, Flexible Spending Accounts and Payroll—forming a complete solution for medium-sized and large businesses committed to client/server technology. The software runs on Intel-based PCs and a variety of databases, and uses Microsoft Windows.

  - CSS HRizon Alliance, announced in May 1996, will provide a client/server outsourcing solution—providing, implementing, and supporting a client's HRMS, including the hardware, data base, and application software.

  - CSS HRizon Alliance, is a family of software products and HRMS solutions based on the CSS HRizon software.

  - CSS HRizon Alliance is expected to be available in June 1996

- Peachtree software products include a variety of microcomputer-based accounting packages sold to very small businesses through computer stores.

- SoftPay Services include PC-based payroll software for in-house use, targeted to businesses with under 100 employees, plus access to the ADP processing center in Atlanta for tax services, direct deposits, and implementation and client support services. There are currently more than 1,000 SoftPay Services installations.

- Full Service Direct Deposit (FSDD) was recently introduced in association with major bank partners. This allows employers to make electronic direct deposits to employee bank accounts.

ADP's human resource recordkeeping and reporting systems, operating in conjunction with a client's payroll data base, provide human resource services, including salary and benefit administration, applicant tracking, employee history, and other information reporting. ADP currently

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offers the following human resource products:

- Interactive Payroll and Personnel (IPP) is an on-line processing service targeted primarily to companies with more than 500 employees and multiple locations.
  - Personnel and payroll data are entered on a terminal supplied by ADP or on a microcomputer. The terminal is linked to a regional ADP computing center via Autonet.
  - The system provides a range of payroll-related services, including filing of federal, state, and local taxes, unemployment cost control, and various management reports, printed on site.
- HR Partner, introduced in 1990, is an IBM and compatible PC-based integrated system that assists large, single-site clients.
- PC Personnel, introduced in 1990, is a PC-based system for integrated personnel and payroll data designed for major accounts and (medium-sized) payroll clients.
- ADP offers a new-time-nd attendance product that automates collection of employee hours and integrates with ADP payroll products.
- For 401(k) plans, ADP offers full-service recordkeeping, communication, enrollment, and reporting systems, operating in conjunction with client databases.
  - During fiscal 1995, these services were enhanced by the acquisition of WTR, a leading consulting and actuarial firm.
  - ADP now offers comprehensive 401(k) administrative services relating to defined benefit plans, flexible spending, health care, and other group benefits.
- Total Time provides a comprehensive time-keeping system, fully integrated into ADP's payroll systems.
  - Total Time integrates clients' timeclocks directly into ADP's payroll computers in 39 centers.
  - More than 1,600 payroll clients now use Total Time.

Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates, and analyzes the client's various financial options.

ADP continues to provide generic accounts receivable, accounts payable, time analysis, general ledger, and financial reporting services to 10,000 to 20,000 businesses. This client base now has the option to use client-site PCs connected to ADP's regional centers' mainframe systems.

Brokerage Services

ADP's back-office stock brokerage and related financial transaction processing services include trade processing, cage management, stock loan accounting, on-line inquiry and data collection, portfolio reporting, order matching, and on-line trading. These services are offered in the U.S. and Canada.

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- ADP also provides processing services to brokers and traders in commodity contracts, commodity futures, and options. These services are offered in the U.S. and Canada through an operations center in Jersey City (NJ).

- ADP processes approximately 20% of New York Stock Exchange transactions and is the leading third-party provider of recordkeeping services in the U.S. and Canada.

- The GLOSS client/server system, acquired with Wilco, offers global multicurrency clearance and settlement services for international securities.

Front-office database, news, analytic, and quotation electronic information services—provided by ADP to the investment and brokerage community—include supplying quotations, financial news, and other information to terminals located on brokers' desks.

- ADP supports approximately 96,000 market data terminals in over 1,200 firms. Most of these terminals are FS Partner intelligent workstations, supported by IBM PS/2 PC servers, and operating on more than 1,500 LANs.

- FS Partner—ADP's stock quote and branch automation service—is an IBM PS/2-based service that links microcomputers with various stock exchanges, ADP computers, and client computers to provide market data and proprietary brokerage and management information applications for the front office.

- FS Partner clients include Merrill Lynch, Shearson Lehman, First Boston, Smith Barney, Kidder Peabody, and Raymond James Financial Inc.

- ADP has introduced an advanced-function FS Partner for institutional users.

- Front-office, market data services, and quote operations are supported from a data center in Mt. Laurel (NJ).

ADP also provides these services through interactive workstations for all active commodities, currencies, and interest rate futures trading.

ADP's Investor Communication Services (ICS) is the largest independent provider of shareholder mailing services in the U.S. and Canada.

- ICS, with its distribution center in Edgewood (NY), handles shareholder mailings to investors whose securities are left in street name with their brokerage firm or bank.

- During fiscal 1995, ADP handled over 200 million mailings for more than 11,000 publicly held companies. Shareholder ballots representing approximately 69 billion shares were electronically processed.

- ShareLink, introduced in 1993, permits clients to send laser-printed dividend checks with personalized communications to their shareholders.

- StreetLink, introduced in 1994, is a cost-effective alternative to traditional glossy, expensive quarterly reports that are printed and mailed within three days.

ADP also offers its institutional and international clients real-time news processing systems, real-time fixed income, foreign exchange, and money market information, and sophisticated analytics.

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The Power Partner service allows clients to build and integrate market information, securities processing systems, broker productivity tools, client applications, and third-party software into their workstations.

ADP Dealer Services

ADP Dealer Services provides turnkey systems to more than 13,000 auto, truck, and farm equipment dealerships and manufacturers in the U.S., Canada, Mexico, Germany, France, the Netherlands, the U.K., and Taiwan.

During fiscal 1995, Dealer Services continued to increase market share in North America through the acquisition of three companies that provide systems to Chrysler, Ford, General Motors, Audi, and Volkswagen dealers.

Auto dealers use ADP's on-site systems to manage their accounting, inventory control, factory communications, scheduling, leasing, sales, and service activities. In addition, ADP offers more than 95 manufacturing subsystems for warranty processing, price updates, and factory ordering.

- Applications supported include inventory control, general accounting control, lease management, automated parts cataloging, parts invoicing, service merchandising, finance and insurance, repair order billing, accounts payable, check writing, payroll processing, electronic document storage and archiving, and laser printing services.

- ADP MAX 8800 features UNIX-based software and RISC technology. It can support a dealership of virtually any size—from a single franchise to a multi-franchise, mega-dealer operation with more than 500 terminals.

- ADP's small dealership systems are customized to meet specific needs. The turnkey systems support a range of functions, from integrated accounting to dealer-to-factory communications.

- ADP's Integrated Office℠, introduced in 1994, combines Lotus 1-2-3 and WordPerfect onto ADP's UNIX-centered Motorola platform. It enables users to work with spreadsheet and word processing programs on ADP terminals.

- ADP Lease Quote™, introduced in 1992, allows dealers to simultaneously compare multiple leasing sources, giving sales personnel the ability to show customers side-by-side funds sources and buy-versus-lease comparisons.

- ADP LaserStation™ allows dealers to print from a single laser printer all types of customer communications, including customer satisfaction surveys, service reminders, invoices and statements—replacing costly preprinted, carbonized forms. More than 12,000 LaserStations are installed worldwide.

- Automated Collision Estimating (ACE) integrates ADP's repair estimating application for auto body shops with its parts and service applications.

- Document Storage & Data Archiving—a paperless archiving system—uses optical disk and scanning techniques to electronically scan, store, and retrieve purchase orders, invoices, checks, other documents, and customer signatures.

- The New Vehicle Order System increases vehicle order accuracy, improves vehicle

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management, and reduces floor plan interest expense.

- The Used Vehicle Network allows dealers to manage their used vehicles more efficiently.

ADP's Manufacturer-Dealer Communications uses an on-site computer to link manufacturers with their dealers for ordering vehicles, warranty claims processing, delivery reporting, pricing updates, and vehicle and parts locating. These dealerships can also use the service for other processing functions such as financial reporting and inventory management.

ADP also provides data communication networks to link dealers to state department of motor vehicle databases for lienholder and driver's license information and vehicle registration services.

Claims Services

Through its Claims Solutions Group (CSG), ADP provides computerized estimating and availability services to insurance companies, claims adjusters, repair shops, and salvage yards involved in auto collision repair and valuation in the U.S. and Canada.

CSG offers the following product lines:

- Audatex is an on-line collision repair estimating system. The system links portable and stationary client terminals to ADP's proprietary database in Ann Arbor (MI). The database contains part descriptions, part numbers, current part prices, and cost and labor hours information on repairing and replacing parts for virtually all models of autos and trucks produced since 1970.

- Vehicle Valuation Services is an automated valuation service by which ADP provides reports to its clients to enable them to determine the value of cars or trucks that have suffered a total loss. This database contains current pricing information based on millions of used cars that are advertised for sale by car dealers and individual owners in the U.S. and Canada and on sales records of certain auto dealer clients.

- Parts Exchange is an automated parts locating and pricing service provided to insurers, manufacturers, distributors, and repair shops. The service offers data—including comparative costs, location, and availability—on parts from more than 1,000 stocking distributors.

  - Parts Exchange-New searches for new parts availability of over 3 million parts from more than 1,000 stocking distributors.

  - Parts Exchange-Salvage provides identification, pricing, and location of recycled parts available from dismantlers and salvage yards throughout the U.S.

- Through its Hollander parts services business, CSG supplies inventory management systems to over 3,000 salvage yards. EDEN, its communications network, allows electronic parts location between yards.

- ShopLink enables body shops to prepare computerized repair estimates of damaged autos and transmit them directly to an insurance company for claim approval. About 1,500 high-quality repair shops now use this service.

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- Audapoint, introduced in late 1992, is a portable laptop estimating system designed for claims adjusters. Graphics, text, and data of the complete Audatex database are stored on CD ROM for interactive access.

- PenPro, introduced in 1994, is the first pen-based mobile claims workstation. Estimating tools are delivered on a touch-screen laptop that includes a one-gigabyte digital graphics database with parts data and repair times for all vehicles manufactured since 1975.

- Photolink is a digital imaging system that can integrate images into electronic files to support claims information.

- Accupro is a property estimating system for homeowners' claims, designed for field appraisers.

As a result of its acquisition of National BioSystems, ADP can evaluate the appropriateness of medical treatment and invoicing for auto accident victims.

- The core product, Provider Bill Audit, evaluates soft-tissue injury claims.

- National BioSystems' clinical databases and outcomes measurement can also be strategically important for broader health care services.

CSG is a major user of ADP's Autonet network for data communications between insurance company claim centers and ADP's database of auto parts and repair-labor information.

In 1995, CSG enhanced its parts services by acquiring the AutoInfo salvage yard network, serving 3,000 clients.

ADP International

ADP is committed to expansion outside the U.S. In fiscal 1995 the company's international revenue was over $225 million, predominantly from businesses in Canada and Europe.

In various European countries, ADP offers its Employer, Brokerage, and Dealer services.

Through its subsidiaries, ADP Nederland B.V., ADP Financial Information Services (U.K.) Limited, and ADP Network Services Limited (U.K.), ADP provides a full range of employer services for 23,000 clients.

- ADP Nederland is a leading provider of payroll and human resource services. In fiscal 1995, it added an offering for the large government sector.

- ADP Nederland also acquired Infotech, the leading provider of employer services to temporary employment agencies.

- ADP has extended its services in the U.K. to include outsourced payroll administration.

The Brokerage front-office business now has 2,200 client terminals in 14 countries outside North America.

- In 1995 ,Brokerage Services acquired Wilco International, which offers a rapidly growing global multicurrency clearance and settlement service for international securities.

Dealer Services currently provides dealer management systems to over 5,000 clients outside North America.

- ADP-Autonom is a leading supplier to General Motors/Opel dealers in Germany.

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- In the U.K., ADP-Modems delivers systems to General Motors/Vauxhall.

- In March 1995, ADP acquired Turbodata, a leading European auto dealer services company with 3,000 clients in Benelux, France, and Germany.

- During fiscal 1995, Dealer Services also expanded its international presence by acquiring a small company in Taiwan.

Other

ADP Network Services also maintains ADP's Autonet packet-switched teleprocessing network. Autonet's prime function is to aid other ADP divisions with more efficient data communications.

The ADP Credit Corp. subsidiary provides computer leasing and financing services, primarily to clients of Dealer Services in the U.S. and Canada who lease on-site computers as part of ADP's total service solution.

Computer Hardware

ADP uses more than 100 mainframes (excluding minicomputers) in its various data centers.

- Employer Services maintains about 45 data centers in various locations in the U.S. and Europe. Services are offered on a variety of computer platforms including IBM, IBM-compatibles, Digital Equipment Corporation, Apple, Motorola, and Hewlett-Packard.

- Brokerage Services maintains operations centers in Mt. Laurel and Jersey City (NJ), using primarily IBM, DEC, and Amdahl systems.

- Dealer Services maintains data centers throughout the U.S. and Canada.

- Claims Services uses the Network Services data center in Ann Arbor to provide services to its clients.

- ADP Network Services maintains its primary data center in Ann Arbor (MI). Equipment used to provide network services includes a large number of DEC System 10s and 20s and DEC VAXs.

Marketing and Sales

ADP markets its products and services through a direct sales force.

Peachtree software is marketed through computer stores and other retail outlets.

Alliances

In January 1996, ADP and SAP® America, Inc. announced an alliance to provide clients of SAP's R/3 enterprise applications software with a standard interface to ADP's payroll outsourcing services.

- This interface will provide complete payroll processing, in addition to allowing SAP customers to use ADP's other value-added services.

- The partnership also provides for the sharing of clients, as well as joint marketing and sales efforts.

Employer Services has various alliances as follows:

- ADP has formed a joint venture with Checkfree Corporation to provide electronic banking and bill payment services to small businesses.

- ADP has licensed Kronos' timekeeping software for use with its human resources products/services.

- ADP has a source code license with PeopleSoft for its client/server products.

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Dealer Services alliances include:

- ADP has entered into an OEM agreement with Motorola to purchase its UNIX/RISC computer systems.
- The company also has partnerships with various manufacturers.

Competitors

ADP's competitors, by service area, include the following:

- Employer Services—Ceridian Employer Services, Paychex, and various regional and local processors, including banks, accounting firms, and independent businesses
- Brokerage Services—Reuters/Quotron, ILX/Thompson Financial, Beta, and SunGard
- Dealer Services—Reynolds and Reynolds, and UCS

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

December 1994

Automatic Data Processing, Inc.

Chairman & CEO: Josh S. Weston
President & COO: Arthur F. Weinbach
One ADP Boulevard
Roseland, NJ 07068
Phone: (201) 994-5000
Fax: (201) 994-5387

Status:	Public
Employees:	22,000 (6/94)
Revenue:	$ 2,468,966,000
Fiscal Year End:	6/30/94

Key Points

- Automatic Data Processing, Inc. (ADP) is the clear leader in providing payroll processing services. ADP processes paychecks for more than 17 million U.S. workers.
- 1994 marked ADP's 45th consecutive growth year since its founding in 1949.
- During fiscal 1994, ADP launched a new strategy for its payroll services with the introduction of client-site payroll processing software to complement its traditional regional processing centers. This move was enhanced with the April 1994 acquisition of Peachtree Software, a leading provider of PC packaged accounting and payroll software for small businesses.
- ADP Brokerage front-office terminals are now used worldwide by more than 90,000 investment professionals.
- ADP Dealer Services, with more than 9,500 clients worldwide, was expanded both domestically and in Europe with several acquisitions.
- ADP Claims Solutions Group entered the bodily injury segment of auto claims processing with the acquisition of National BioSystems, which evaluates medical costs related to auto accidents.

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- For fiscal 1995, ADP is planning another record year with double-digit growth in revenue and earnings per share.

Company Description

ADP was formed in 1949 as Automatic Payrolls, Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961, ADP computerized its operations and went public.

Payroll and related services still provide the major share of ADP's revenue; however, the company also derives significant revenues from brokerage services, services to automotive dealers, and claims services for property and casualty and the collision repair industry. The company currently provides information and processing services to more than 300,000 clients worldwide.

Structure and Operations

ADP's current organizational structure is shown in the exhibit. The company is currently organized into four major groups as follows:

- Employer Services, with approximately 15,000 employees, provides payroll processing, payroll tax filing, job costing, labor distribution, unemployment compensation management and personnel information services, as well as payroll processing services. This unit also administers a shrinking batch Accounting Services business providing generic accounts receivable, accounts payable, time analysis, and general ledger/financial reporting transaction processing services.

- The Brokerage Services Group, with more than 2,000 employees, includes the following businesses:

  - Information and Processing Services (formerly two separate divisions made up of Front-office and Back-office) provides real-time quotation/financial information services and securities operations services.

  - Investor Communication Services (formerly Proxy Services) provides shareholder mailing services.

- ADP Dealer Services, with more than 3,000 employees, provides processing and network services and turnkey systems to auto, truck, farm and heavy equipment dealerships in the U.S., Canada and Europe.

- ADP Claims Solutions Group, with more than 1,000 employees, provides claims estimating processing services and electronic information services for auto physical damage, property damage and bodily injury claims analysis.

Company Strategy

ADP's growth strategies are primarily focused on expanding the leadership positions of its core businesses. Key growth strategies include:

- Delivering superior service to enhance value and improve client retention

- Providing ancillary products that create incremental value for existing clients

- Increasing market share by broadening product lines, expanding distribution channels and acquiring new clients

- Expanding existing business in Europe, where feasible

- Improving reliability, responsiveness, efficiency and profitability through process reengineering and automation

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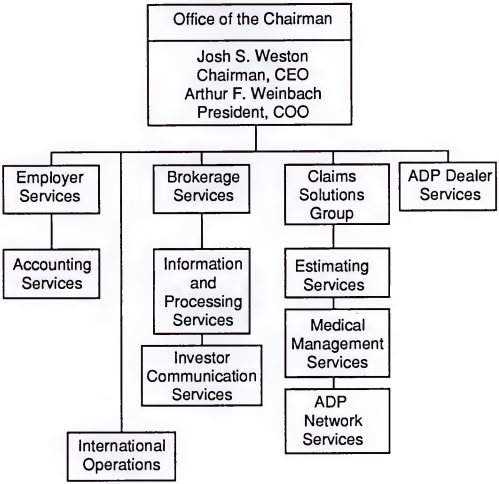
EXHIBIT

ADP Organization Chart



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- Entering new markets that are attractive extensions or complements of core businesses and competencies

In the Employer Services area, ADP intends to expand its client-site products and services.

In the Brokerage Services area, ADP intends to become a major multinational provider of market data services.

In the Dealer Services area, ADP intends to become the leading global supplier of turnkey systems to auto dealerships.

Financials

ADP reported revenue of over $2.4 billion for fiscal 1994, an 11% increase over fiscal 1993 revenue of $2.2 billion.

A five-year financial summary and a three-year summary of source of revenue by major operating group are shown on the following page.

ADP management attributed revenue growth in fiscal 1994 to the expansion of its client base, new product offerings and acquisitions, with relatively minor contributions from price increases.

Employer Services' revenue grew 9% in fiscal 1994, down from the 17% growth rate in fiscal 1993.

- Last year's revenue growth was aided by the May 1992 acquisition of Bank of America's payroll business.

- In the absence of this transaction, fiscal 1993 growth would have been approximately 8%.

- Operating margins have increased in each of the past three years as a result of continued productivity and operating efficiencies.

Brokerage Services' revenue grew 20% in fiscal 1994 and 23% in fiscal 1993, aided by the February acquisition of the back-office processing and international equities quotation services business of Quotron and the February 1992 acquisition of IECA's proxy distribution services.

- In the absence of these transactions, revenue growth would have been approximately half as much each year.

- Brokerage Services began to benefit in fiscal 1992 from improved Wall Street trading volumes, which had previously been adversely affected in the years subsequent to the October 1987 market crash. The improved conditions continued in fiscal 1993 and 1994.

- Brokerage Services' pretax margin was approximately 16% in fiscal 1994, after absorbing losses from the recently acquired international quote services business referred to above. Brokerage margins were 14% in fiscal 1993 and 13% in fiscal 1992.

Dealer Services' revenue grew 22% in fiscal 1994 and 19% in fiscal 1993 as a result of improved industry conditions and several small acquisitions. Operating margins were approximately 20% in fiscal 1994, up from approximately 15% in fiscal 1993 and 1992.

Systems development and programming expenditures were approximately $160.8 million (7% of revenue) in fiscal 1994, $132.4 million (6% of revenue) in fiscal 1993 and $111.5 million (6% of revenue) in fiscal 1992. Investments have increased, especially in

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Employer Services, to accelerate automation, migration to new computing technologies and development of new products.

Automatic Data Processing, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

Item	Fiscal Year 6/94	6/93	6/92	6/91	6/90
Revenue	$2,468.0	$2,223.4	$1,940.6	$1,771.8	$1,714.0
• Percent change from previous year	11%	15%	10%	3%	2%
Income before taxes	$446.3	$386.6	$341.6	$299.6	$285.3
• Percent change from previous year	15%	13%	14%	5%	5%
Net income	$329.3	$294.2	$256.2	$227.7	$211.7
• Percent change from previous year	12%	15%	13%	8%	13%
Earnings per share	$2.34	$2.08	$1.84	$1.63	$1.44
• Percent change from previous year	13%	13%	13%	13%	27%

Automatic Data Processing, Inc.
Three-Year Source of Revenue Summary
($ Millions)

	Fiscal Year					
	6/94		6/93		6/92	
Item	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Employer Services	$1,424	58%	$1,311	59%	$1,125	58%
Brokerage Services	606	25%	505	23%	412	21%
Dealer Services	334	13%	274	12%	231	12%
Claims Services and other (a)	105	4%	133	6%	173	9%
Total	$2,469	100%	$2,223	100%	$1,941	100%

(a) Includes services for auto claims, wholesalers and European payroll users.

Source of Revenue by Product/Service

INPUT estimates that ADP's fiscal 1994 revenue was derived approximately as follows:

Processing services	72%
Network services	13%
Turnkey systems	15%
	100%

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Market Financials

ADP's revenue is primarily derived from various businesses, banks and CPAs for payroll and related services; automotive dealerships and manufacturers; and brokerage firms and insurance companies.

- Employer Services has more than 275,000 clients from a large variety of industries and markets.
- Brokerage Services primarily serves the retail brokerage market, but also services banks, commodity dealers, the institutional brokerage market and individual non-brokerage corporations.
- Dealer Services primarily serves auto dealerships, but also serves agricultural equipment dealers, auto repair shops, used car lots, state departments of motor vehicles and manufacturers of autos, trucks and agricultural equipment.
- Claims Solutions Group has many insurance company clients, but also provides services to auto manufacturers, body repair shops, salvage yards, distributors of new and used auto parts and other non-insurance clients.

Geographic Markets

Approximately 92% of ADP's revenue is derived from U.S. operations, with the remainder from the U.K., Western Europe and Canada.

Acquisitions

In October 1994, ADP acquired The Application Group of San Francisco (CA).

- The Application Group, with annual revenue of under $20 million and approximately 200 employees, is a professional services firm that provides consulting, systems development and implementation, client/server implementations, on-site consulting support and project management services to various industries in the areas of finance, accounting, manufacturing, distribution and human resources applications.
- The acquisition will strengthen ADP's installation capabilities for large client-site payroll and human resource servicers.

In October 1994, ADP and M.A.I. Deutschland GmbH announced an agreement for ADP Dealer Services to acquire a portion of M.A.I.'s automotive dealer systems activities in Germany. Terms of the acquisition have not been disclosed.

- M.A.I., based in Neu-Isenburg (Germany) provides on-site dealership computing systems for approximately 350 automotive dealers throughout Germany. The M.A.I. AUTOSOFT program package was transferred to ADP.
- The planned acquisition of M.A.I. Dealer Services will further expand ADP Dealer Services' existing market presence with General Motors and Ford in Germany.

In June 1994, ADP acquired MarketMax, a real-time information and trading system that uses Apple Macintosh platforms. The product is marketed through ADP Brokerage Services.

In May 1994, ADP Dealer Services acquired Montreal-based ProgiCar Inc., which supplies PCs to 200 Chrysler, Ford, GM and Mazda dealers in Canada.

In March 1994, ADP acquired a minority position in Wilco International, Ltd., which

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provides real-time, multicurrency, international clearance and settlement systems that support non-U.S. dollar denominated transactions.

In July 1994, ADP Dealer Services acquired the dealer computer services business of V-Crest, a subsidiary of Volkswagen of America.

In March 1994, ADP acquired National BioSystems of Rockville (MD).

- National BioSystems, with annual revenue of approximately $6 million and 60 employees at the time of the acquisition, uses expert systems and health care databases to help insurance companies minimize waste and fraud claims arising from auto and worker's compensation accidents.

- National BioSystems now operates as a unit of ADP Claims Solutions Group.

In April 1994, ADP acquired Peachtree Software, Inc. of Norcross (GA). Terms of the acquisition were not disclosed.

- Peachtree, with annual revenue of more than $20 million and 130 employees at the time of the acquisition, provides business accounting software for IBM and Macintosh computers to small businesses.

- The acquisition gives ADP access to Peachtree's installed base of approximately 250,000 users and opens the way for joint development efforts geared toward making Peachtree software a front end to ADP's payroll, tax filing, human resources and other on-line services.

- Peachtree now operates as a subsidiary of ADP within ADP Employer Services.

In February 1994, ADP acquired Advantage Systems, Inc. of Waltham (MA), a provider of wholesale electronic banking software products, network services and consulting to the financial services industry.

In November 1993, ADP Dealer Services acquired Auto Tell Services, Inc. (ATS) of King of Prussia (PA).

- ATS, with 1992 revenue of approximately $10 million, was a value-added reseller (VAR) of HP-based inventory control and distribution management systems for automotive dealers. ADP has since converted the software from HP to Motorola-based systems.

- The acquisition of ATS makes ADP a primary supplier to General Motors and Ford.

In March 1993, ADP acquired SunGard Automotive Systems from SunGard Data Systems, making ADP the largest Chrysler dealership systems supplier in North America.

- The acquisition included the CARS product line, which served 1,200 smaller domestic clients.

- These acquired operations have been merged into ADP Dealer Services.

During early 1993, ADP Dealer Services acquired a small U.K. company named MODEMS, which provides management systems to more than 130 U.K. dealerships. MODEMS now operates as ADP-Modems within ADP Dealer Services.

In February 1993, ADP acquired two small divisions from Quotron Systems. One unit provided financial information terminals to

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customers outside the U.S. and the other unit provided back-office recordkeeping services to brokerages. Terms of the acquisition were not disclosed.

In June 1992, ADP acquired Hollander, of Plymouth (MN).

- Hollander operates a nationwide network connecting more than 1,000 salvage yards that inventory and sell parts from recycled cars.

- Hollander now operates within the ADP Claims Solutions Group.

In May 1992, ADP acquired the payroll services business of Bank of America for approximately $200 million. The acquisition, which represented 17,000 clients and over $110 million in annual revenue, significantly improved ADP's Employer Services presence in California, Arizona and New York.

In February 1992, ADP acquired Independent Election Corporation of America (IECA).

- IECA, with annual revenue of $60 million, was a leading distributor of proxies, annual reports, and other corporate communications to beneficial owners of securities held in street name by financial institutions.

- The operations of IECA have been merged into ADP Investor Communications Services within ADP's Brokerage Services operations.

In January 1992, ADP acquired Autonom Computer Beteiligtungs GmbH, a leading German auto dealer computing service company. Autonom serves a dominant share of GM/Opel dealers. The operations of Autonom have been merged into ADP Dealer Services.

Employees

As of June 30, 1994, ADP had approximately 22,000 employees, segmented as follows:

Employer Services	15,000
Brokerage Services	2,100
Dealer Services	3,000
Claims Services	1,100
International	400
Corporate and other	400
	22,000

Key Products and Services

Employer Services

ADP Employer Services offers a range of payroll and payroll-related services, including payroll processing, payroll tax filing, human resource recordkeeping and reporting, 401(k) recordkeeping and reporting, timekeeping systems and unemployment compensation management. On payday, ADP pays more than 17 million U.S. workers for more than 275,000 clients of all sizes in virtually every business sector.

- Payroll and payroll tax collection and filing services comprise over 90% of the revenues of the Employer Services Group.

- In addition to marketing its services directly, ADP has marketing relationships with many banks and CPAs whereby ADP offers its services to their clients and prospective clients.

- Employer Services are offered from 53 ADP regional centers located throughout the U.S. ADP also has data processing centers in Western Europe (2) and Canada (1).

ADP's payroll and payroll tax collection and filing services comprise over 90% of Employer

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Services revenue and is its largest single form of service.

- Such services consist primarily of the preparation and furnishing of employee paychecks and direct deposit advices, along with the necessary supporting journals, summaries and other reports.

- As part of its regular services, ADP supplies each client with the quarterly and annual Social Security, Medicare, and federal, state and local income tax withholding reports required to be filed by employers, W-2 withholding statements for employees, a complete record of payments for each pay period and a quarterly historical earnings record for each employee.

- Payroll services also include the preparation of statistical and audit reports for use in client management, such as payroll and job cost distribution reports, welfare and pension fund reports and a payroll audit report.

- AutoPay I Payroll service targets small clients with 5 to 19 employees.

- ADP's AutoPay II payroll service focuses on companies with 25 to 500 employees. ADP has more than 100,000 clients in this segment.

- AutoPay Plus, introduced in 1983, includes an integrated payroll and tax filing service for companies with fewer than 25 employees.

- The National Accounts Division sells payroll services to companies with over 1,000 employees.

- More than 95,000 ADP payroll clients now use microcomputers for payroll input to ADP.

  - The PC/Payroll service is targeted to accounts with 50 or more employees.

  - Easypay, introduced in late 1989, is a simplified PC service for smaller payroll clients.

  - Direct Payroll Access (DPA), introduced in 1993, enables PC-based clients who prefer more on-site control to use ADP's payroll, direct deposit and tax filing services, while having the capability to directly access their payroll data on a PC and to print their paychecks and standard reports on site.

- ADP's automated payroll tax collection and filing service processes federal, state and local payroll withholding taxes on behalf of ADP clients and remits such taxes to the appropriate taxing authorities when due. About 75% of ADP's payroll clients also use ADP's tax filing service.

- Approximately 50% of Employer Services' payroll and payroll tax collection and filing services revenue for the past three fiscal years came from ADP's heartline accounts (companies with fewer than 100 employees), 35% from major accounts (companies with 100 to 1,000 employees) and 15% from national accounts (companies with over 1,000 employees).

ADP now also offers client-site software systems for clients who prefer enhanced control and lower cost solutions by taking on payroll preparation in-house.

- The Client Server Series is made up of four integrated functional modules—Human

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Resources, Benefits Administration, Flexible Spending Accounts and Payroll—forming a complete solution for medium- and large-sized businesses committed to client/server technology. The software runs on Intel-based PCs and a variety of databases and uses Microsoft Windows.

- Peachtree software products include a variety of microcomputer-based accounting packages sold to very small businesses through computer stores.

- SoftPay Services include PC-based payroll software for in-house use, targeted to businesses with under 100 employees, plus access to the ADP processing center in Atlanta for tax services, direct deposits and implementation and client support services. There are currently more than 1,000 SoftPay Services installations.

ADP's human resource recordkeeping and reporting systems, operating in conjunction with a client's payroll data base, provide human resource services, including salary and benefit administration, applicant tracking, employee history and other information reporting. ADP currently offers the following human resource products:

- Interactive Payroll and Personnel (IPP) is an on-line processing service targeted primarily to companies with more than 500 employees and multiple locations.

  - Personnel and payroll data are entered on a terminal supplied by ADP or on a microcomputer. The terminal is linked to a regional ADP computing center via Autonet.

  - The system provides a range of payroll-related services, including filing of federal, state and local taxes, unemployment cost control and various management reports, printed on site.

- HR Partner, introduced in 1990, is an IBM and compatible PC-based integrated system that assists large, single-site clients.

- PC Personnel, introduced in 1990, is a PC-based system for integrated personnel and payroll data designed for major accounts and (medium-sized) payroll clients.

- ADP offers a new time and attendance product that automates collection of employee hours and integrates with ADP payroll products.

- For 401(k) plans, ADP offers full-service recordkeeping, communication, enrollment and reporting systems, operating in conjunction with client databases.

Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates and analyzes the client's various financial options.

ADP continues to provide generic accounts receivable, accounts payable, time analysis, general ledger, and financial reporting services to 10,000 to 20,000 businesses. This client base now has the option to use client-site PCs connected to ADP's regional centers' mainframe systems.

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Brokerage Services

ADP's back-office stock brokerage and related financial transaction processing services include brokerage processing, cage management, stock loan accounting, on-line inquiry and data collection, portfolio reporting, order matching and on-line trading.

- ADP also provides processing services to brokers and traders in commodity contracts, commodity futures and options. These services are offered in the U.S. and Canada through an operations center in Jersey City (NJ).

- ADP processes approximately 20% of New York Stock Exchange transactions and is the leading third-party provider of recordkeeping services in the U.S. and Canada.

Front-office database and quotation electronic information services—provided by ADP to the investment and brokerage community—include supplying quotations, financial news, and other information to terminals located on brokers' desks.

- ADP supports approximately 90,000 market data terminals in nearly 600 firms. Most of these terminals are FS Partner intelligent workstations, supported by IBM PS/2 PC servers, and operating on more than 1,500 LANs.

- FS Partner—ADP's stock quote and branch automation service—is an IBM PS/2-based service that links microcomputers with various stock exchanges, ADP computers and client computers to provide market data and proprietary brokerage and management information applications for the front office. In fiscal 1994, more than 18,000 FS Partner workstations were installed.

- FS Partner clients include Merrill Lynch, Shearson Lehman, First Boston, Smith Barney, Kidder Peabody and Raymond James Financial Inc.

- ADP has introduced an advanced function FS Partner for institutional users.

- Front-office, market data services and quote operations are supported from a data center in Mt. Laurel (NJ).

ADP also provides on-line, real-time services for all active commodities, currencies and interest rate futures trading.

ADP's Investor Communications Services (ICS) is the largest independent provider of shareholder mailing services in the U.S. and Canada.

- ICS, with its distribution center in Edgewood (NY), handles shareholder mailings to investors whose securities are left in street name with their brokerage firm or bank.

- During fiscal 1994, ADP handled over 165 million mailings for more than 9,000 publicly held companies.

- ShareLink, introduced in 1993, permits clients to send laser-printed dividend checks with personalized communications to their shareholders.

- Streetlink, introduced in 1994, is a cost-effective alternative to traditional glossy, expensive quarterly reports that is printed and mailed within three days.

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ADP Dealer Services

ADP Dealer Services provides turnkey systems to more than 9,500 auto and truck dealerships in North America and Europe.

- Services are also provided to manufacturers of agricultural equipment in the U.S. and Canada.

- During fiscal 1994, Dealer Services continued to increase market share in North America through the acquisition of three companies that provide systems to Chrysler, Ford, General Motors, Audi and Volkswagen dealers.

Auto dealers use ADP's on-site systems to manage their accounting, inventory control, factory communications, scheduling, leasing, sales and service activities. In addition, ADP offers more than 80 manufacturing subsystems for warranty processing, price updates and factory ordering.

- Applications supported include inventory control, general accounting control, lease management, automated parts cataloging, parts invoicing, service merchandising, finance and insurance, repair order billing, accounts payable, check writing, payroll processing, electronic document storage and archiving and laser printing services.

- ADP MAX 8800 features UNIX-based software and RISC technology. It can support a dealership of virtually any size—from a single franchise to a multi-franchise, mega-dealer operation with more than 500 terminals.

- ADP's small dealership systems are customized to meet specific needs. The turnkey systems support a range of functions, from integrated accounting to dealer-to-factory communications.

- ADP's Integrated Office℠, introduced in 1994, combines Lotus 1-2-3 and WordPerfect onto ADP's UNIX-centered Motorola platform. It enables users to work with spreadsheet and word processing programs on ADP terminals.

- ADP Lease Quote™, introduced in 1992, allows dealers to simultaneously compare multiple leasing sources, giving sales personnel the ability to show customers side-by-side funds sources and buy-versus-lease comparisons.

- ADP LaserStation™ allows dealers to print from a single laser printer all types of customer communications, including customer satisfaction surveys, service reminders, invoices and statements—replacing costly preprinted, carbonized forms. More than 8,000 LaserStations are installed worldwide.

- Automated Collision Estimating (ACE) integrates ADP's repair estimating application for auto body shops with its parts and service applications.

- Document Storage & Data Archiving—a paperless archiving system—uses optical disk and scanning techniques to electronically scan, store and retrieve purchase orders, invoices, checks, other documents and customer signatures.

ADP's Manufacturer-Dealer Communications uses an on-site computer to link manufacturers with their dealers for ordering vehicles, warranty claims processing, delivery reporting, pricing updates, and vehicle and parts locating. These dealerships can also use the service for

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other processing functions such as financial reporting and inventory management.

ADP also provides data communication networks to link dealers to state department of motor vehicle databases for lienholder and drivers' license information and vehicle registration services.

ADP is committed to Dealer Services' expansion in Europe. In fiscal 1994, ADP launched Ford's Dealership Computer Application System, which provides dealer to factory communications in Germany and the U.K. ADP currently has 1,500 dealer clients in Europe and has been endorsed by BMW AG and Ford Europe.

Claims Services

Through its Claims Solutions Group (CSG), ADP provides computerized estimating services to auto insurers and repairers in the U.S. and Canada, related to auto collision repair and valuation.

CSG offers the following product lines:

- Audatex is an on-line collision repair estimating system. The system links portable and stationary client terminals to ADP's proprietary database in Ann Arbor (MI). The database contains parts descriptions, part numbers, current part prices, and cost and labor hours information on repairing and replacing parts for virtually all models of autos and trucks produced since 1970.

- Vehicle Valuation Services is an automated valuation service by which ADP provides reports to its clients to enable them to determine the value of cars or trucks that have suffered a total loss. This database contains current pricing information based on millions of used cars that are advertised for sale by car dealers and individual owners in the U.S. and Canada and on sales records of certain auto dealer clients.

- Parts Exchange is an automated parts locating and pricing service provided to insurers, manufacturers, distributors and repair shops. The service offers data—including comparative costs, location and availability—on parts from more than 1,000 stocking distributors.

  - Parts Exchange-New searches for new parts availability of over 3 million parts from more than 1,000 stocking distributors.

  - Parts Exchange-Salvage provides identification, pricing and location of recycled parts available from dismantlers and salvage yards throughout the U.S.

- Through its Hollander parts services business, CSG supplies inventory management systems to over 1,300 salvage yards. EDEN, its communications network, allows electronic parts location between yards. During fiscal 1994, the number of EDEN users tripled to more than 1,000.

- Shoplink enables body shops to prepare computerized repair estimates of damaged autos and transmit them directly to an insurance company for claim approval. About 1,500 high-quality repair shops now use this service.

- Audapoint, introduced in late 1992, is a portable laptop estimating system designed for claims adjusters. Graphics, text and data of the complete Audatex database are stored on CD ROM for interactive access.

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- PenPro, introduced in 1994, is the first pen-based mobile claims workstation. Estimating tools are delivered on a touch-screen laptop that includes a one-gigabyte digital graphics database with parts data and repair times for all vehicles manufactured since 1975.

- Photolink is a digital imaging system that can integrate images into electronic files to support claims information.

- Accupro is a property estimating system for homeowners' claims designed, for field appraisers.

As a result of the acquisition of National BioSystems, ADP can evaluate the appropriateness of medical treatment and invoicing for auto accident victims.

- The core product, Provider Bill Audit, evaluates soft-tissue injury claims.

- National BioSystems' clinical databases and outcomes measurement can also be strategically important for broader health care services.

CSG is a major user of ADP's Autonet network for data communications between insurance company claim centers and ADP's database of auto parts and repair-labor information.

ADP Europe

In various European countries, ADP offers its Employer, Brokerage and Dealer services.

ADP Netherlands is a leading provider of payroll and human resource services, with over 20,000 clients.

In the U.K., ADP provides a range of employer services for approximately 3,000 clients.

Since acquiring Quotron's international equities quotation services, ADP is targeting becoming a major multinational provider of market data services. ADP's new U.K. center has been upgraded to support the entire international client base and future growth.

- ADP has direct information feeds from more than 140 exchanges.

- The company has approximately 2,000 terminals in 14 countries outside North America.

Dealer Services currently provides systems to 1,500 clients in Germany and the U.K.

- ADP-Autonom is a leading supplier to General Motors/Opel dealers.

- In the U.K., ADP-Modems delivers systems to General Motors/Vauxhall.

Other

ADP Network Services also maintains ADP's Autonet packet-switched teleprocessing network. Autonet's prime function is to aid other ADP divisions with more efficient data communications.

Computer Hardware

ADP uses more than 100 mainframes (excluding minicomputers) in its various data centers.

- Employer Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is

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predominantly IBM 4300 systems and Magnuson mainframes.

- Brokerage Services maintains operations centers in Mt. Laurel and Jersey City (NJ), using primarily IBM, DEC, and Amdahl systems.
- Dealer Services maintains data centers throughout the U.S. and Canada.
- Claims Services uses the Network Services data center in Ann Arbor to provide services to its clients.
- ADP Network Services maintains its primary data center in Ann Arbor (MI). Equipment used to provide network services includes a large number of DEC System 10s and 20s and DEC VAXs.

Marketing and Sales

ADP markets its products and services through a direct sales force.

Peachtree software is marketed through computer stores and other retail outlets.

Alliances

Employer Services has various alliances as follows:

- ADP has licensed Kronos' timekeeping software for use with its human resources products/services.
- ADP has a source code license with PeopleSoft for its client/server products.

Dealer Services:

- ADP has entered into an OEM agreement with Motorola to purchase its UNIX/RISC computer systems.
- The company also has partnerships with various manufacturers.

Competitors

ADP's competitors, by service area, include the following:

- Employer Services—Ceridian Employer Services, Paychex and various regional and local processors, including banks, accounting firms and independent businesses
- Brokerage Services—Reuters/Quotron, ILX/Thompson Financial, Beta and SunGard
- Dealer Services—Reynolds and Reynolds and UCS

Assessment

ADP's strengths include:

- A leadership position in its major businesses
- The size of its markets
- A large client base
- Significant financial resources

Challenges include:

- Accelerating the revenue growth rate
- Acquiring new growth businesses

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COMPANY
PROFILE

AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
Phone: (201) 994-5000
Fax: (201) 994-5387

Chairman & CEO:	Josh S. Weston
Status:	Public Corporation
Stock Exchange:	NYSE
Total Employees:	20,500 (6/92)
Total Revenue:	$1,940,571,000
Fiscal Year End:	6/30/92

Key Points

- Automatic Data Processing, Inc. (ADP) is the clear leader in providing payroll processing services.
- During fiscal 1992, ADP further expanded its payroll operations and made its largest acquisition ever when it acquired the payroll services business of Bank of America. The acquisition significantly expanded ADP's payroll business in California, Arizona, and New York.
- ADP entered Europe's auto dealer services market with the acquisition of German-based Autonom Computer, serving over 1,000 clients.
- ADP doubled its Proxy Services business with the acquisition of The Independent Election Corporation of America.

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Company Description

ADP was formed in 1949 as Automatic Payrolls, Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961 ADP computerized its operations and went public.

Payroll and related services still provide the major share of ADP's revenue; however, the company also derives significant revenues from brokerage services, services to automotive dealers, and automotive claims services for automobile insurers and repairers. The company currently provides information and processing services to more than 250,000 clients worldwide.

ADP's current organization structure is shown in the exhibit. The company is currently organized into four major groups as follows:

- Employer Services, with more than 10,000 employees, provides payroll processing, payroll tax filing, job costing, labor distribution, unemployment compensation management, and personnel information services.
  - Employer Services also administers a shrinking batch Accounting Services business (which was formerly included in the Interactive Business Services unit), providing generic accounts receivable, accounts payable, time analysis, and general ledger/financial reporting transaction processing services.
- The Brokerage Services Group includes the following businesses:
  - "Back-office" recordkeeping processing services
  - "Front-office" data base and stock quotation electronic information services to the investment/brokerage industry
  - Proxy Services shareholder mailing services
- ADP Dealer Services provides processing and network services and turnkey systems to auto, truck, farm, and heavy equipment dealers.
- Automotive Claims Services provides claims estimating processing services and electronic information services for vehicle valuation and parts locating and pricing to automobile insurers, manufacturers, and repairers.

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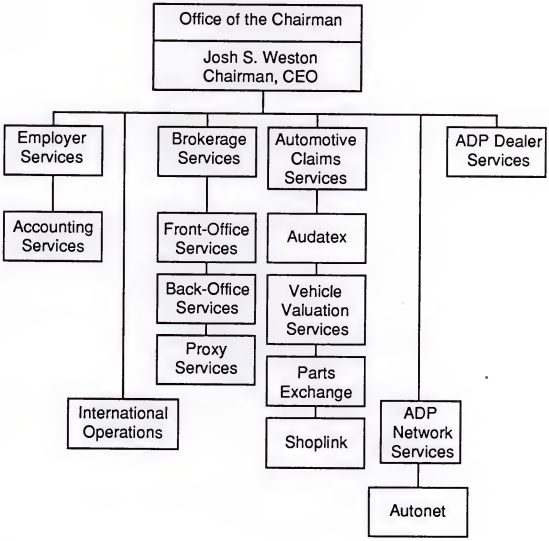
EXHIBIT

ADP Organization Chart



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Financials

ADP reported revenue of over $1.9 billion for fiscal 1992, a 10% increase over fiscal 1991 revenue of $1.77 billion. A five-year financial summary follows:

AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	6/92	6/91	6/90	6/89	6/88
Revenue	$1,940.6	$1,771.8	$1,714.0	$1,677.7	$1,549.2
· Percent increase from previous year	10%	3%	2%	8%	12%
Income before taxes	$341.6	$299.6	$285.3	$271.8	$255.0
· Percent increase from previous year	14%	5%	5%	7%	15%
Net income	$256.2	$227.7	$211.7	$187.6	$170.3
· Percent increase from previous year	13%	8%	13%	10%	29%
Earnings per share	$1.84	$1.63	$1.44	$1.13	$1.07
· Percent increase from previous year	13%	13%	27%	5%	27%

A three-year summary of source of revenue by major operating group follows:

AUTOMATIC DATA PROCESSING, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/92		6/91		6/90	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Employer Services	$1,125	58%	$1,021	58%	$929	54%
Brokerage Services	412	21%	345	20%	356	21%
Dealer Services	231	12%	206	12%	194	11%
Automotive Claims	113	6%	105	6%	90	5%
Other (a)	60	3%	95	5%	145	9%
TOTAL	**$1,941**	**100%**	**$1,772**	**100%**	**$1,714**	**100%**

(a) Includes international operations and ADP Network Services.

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ADP management attributed revenue growth in fiscal 1992 to the expansions of its client base, with relatively minor contributions from new product offerings and price increases. Excluding acquisitions made during the year, consolidated revenue growth by 6%, as compared with 3% in fiscal 1991 and 2% in fiscal 1990.

Employer Services' grew 10% in fiscal 1992, slightly aided by the May 1992 acquisition of Bank of America's payroll business.

- In the absence of this transaction, revenue growth for this segment would have been 9%.

- Operating margins, approximately 25% in fiscal 1992, have increased in each of the past three years as a result of continued productivity and operating efficiencies.

Brokerage Services' revenue increased 20% in fiscal 1992, primarily as a result of the February 1992 acquisition of IECA's proxy distribution services.

- In the absence of this acquisition, revenue growth would have been 7%. Brokerage also benefited in fiscal 1992 from an improved Wall Street economy, which had been negatively affected in the years subsequent to the October 1987 market crash.

- Operating margins were approximately 13% in fiscal 1992, improving significantly over fiscal 1991 and 1990.

Dealer Services' revenue increased 12% in fiscal 1992 as a result of the Autonom acquisition, offset somewhat by the weak automotive industry.

- In the absence of the Autonom acquisition, revenue grew approximately 6%.

- Operating margins were approximately 15% in fiscal 1992, up slightly from the prior year.

ACS' revenue grew 8% in fiscal 1992 and insurers' use of ACS collision repair estimates increased to more than five million.

Systems development and programming expenditures were approximately $111.5 million (6% of revenue) in fiscal 1992, $97.6 million (6% of revenue) in fiscal 1991, and $90 million (5% of revenue) in fiscal 1990.

Revenue for the nine months ending March 31, 1993 reached $1.6 billion, compared to $1.4 billion for the same period in 1992. Net

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income was $214.1 million, compared to $185.9 million for the same period a year ago.

Acquisitions

In February 1993, ADP finalized the acquisition of two small divisions from Quotron Systems. One unit provides financial information terminals to customers outside the U.S. and the other unit provides back-office recordkeeping services to brokerages. Terms of the acquisition were not disclosed.

In May 1992, ADP acquired the payroll services business of Bank of America, representing 17,000 clients and over $110 million in annual revenue.

- The purchase price was estimated at $200 million.
- This acquisition significantly improves ADP's Employer Services presence in California, Arizona, and New York.

In February 1992, ADP acquired Independent Election Corporation of America (IECA).

- IECA, with annual revenue of $60 million, is a leading distributor of proxies, annual reports, and other corporate communications to beneficial owners of securities held in street name by financial institutions.
- The operations of IECA are being merged into ADP's Brokerage Services operations.

In January 1992, ADP acquired Autonom Computer Beteiligtungs GmbH, a leading German auto dealer computing service company. Autonom serves a dominant share of GM/Opel dealers. The operations of Autonom are being merged into ADP's Dealer Services unit.

Competitors

ADP competitors, by service area, include the following:

- Employers Services: Ceridian Employer Services (formerly Control Data Business Management Services), Paychex, and various regional and local processors, including banks, accounting firms, and independent businesses
- Brokerage Services: Quotron, Dow Jones Telerate, and Reuters
- Dealer Services: Reynolds and Reynolds and Triad Systems

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Key Products and Services

INPUT estimates ADP's fiscal 1992 revenue was derived approximately as follows:

Processing services	75%
Network services	17%
Turnkey systems	8%
	100%

Employer Services:

ADP Employer Services offers a range of payroll and payroll-related services, including payroll processing, payroll tax filing, human resource recordkeeping and reporting, 401(k) recordkeeping and reporting, and unemployment compensation management. On payday, ADP pays 15 million workers, representing up to an estimated 20% of the U.S. workforce.

- Payroll and payroll tax collection and filing services comprise over 90% of the revenues of the Employer Services Group. Tax filing revenue continues to grow by 15% per year.

- In addition to marketing its services directly, ADP has marketing relationships with many banks and CPAs whereby ADP offers its services to their clients and prospective clients.

- Employer Services are offered from 53 ADP regional centers located throughout the U.S. ADP also has data processing centers in Western Europe and Canada.

ADP's payroll and payroll tax collection and filing services comprise over 90% of Employer Services revenue and is its largest single form of service.

- Such services consist primarily of the preparation and furnishing of employee pay checks and direct deposit advices, along with the necessary supporting journals, summaries and other reports.

- As part of its regular services, ADP supplies each client with the quarterly and annual social security, medicare, and federal, state, and local income tax withholding reports required to be filed by employers, W-2 withholding statements for employees, a complete record of payments for each pay period, and a quarterly historical earnings record for each employee.

- Payroll services also include the preparation of statistical and audit reports for use in client management, such as payroll and job cost distribution reports, welfare and pension fund reports, and a payroll audit report.

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- AutoPay I Payroll service targets small clients with 5 to 19 employees.

- ADP's AutoPay II payroll service focuses on companies with 25 to 500 employees. ADP has over 100,000 clients in this segment.

- AutoPay Plus, introduced in 1983, includes an integrated payroll and tax filing service for companies with fewer than 25 employees.

- The National Accounts Division sells payroll services to companies with over 1,000 employees.

- More than 80,000 ADP payroll clients now use microcomputers for payroll input to ADP. This PC/Payroll service is targeted to accounts with 50 or more employees. Easypay, introduced in late 1989, is a simplified PC service for smaller payroll clients.

- ADP's automated payroll tax collection and filing service processes federal, state, and local payroll withholding taxes on behalf of ADP clients and remits such taxes to the appropriate taxing authorities when due. About 70% of ADP's payroll clients also use ADP's tax filing service.

- Approximately 65% of Employer Services' payroll and payroll tax collection and filing services revenue for the past three fiscal years came from ADP's heartline accounts (companies with between 25 and 1,000 employees), 20% from small accounts (under 25 employees), and approximately 15% from national accounts (over 1,000 employees).

ADP's human resource recordkeeping and reporting systems, operating in conjunction with a client's payroll data base, provide human resource services, including salary and benefit administration, applicant tracking, employee history, and other information reporting. ADP currently offers three human resource products, as follows:

- Interactive Payroll and Personnel (IPP) is an on-line processing service targeted primarily to companies with more than 500 employees and multiple locations.

  - Personnel and payroll data are entered on a terminal supplied by ADP or a microcomputer. The terminal is linked to a regional ADP computing center via Autonet.

  - The IPP system provides automatic updates of personnel files adjusted to reflect payroll activity.

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- The system provides a range of payroll-related services, including filing of federal, state, and local taxes, unemployment cost control, and various management reports, printed on-site.

- HR Partner, introduced in 1990, is an IBM and compatible PC-based integrated system that assists large, single-site clients.

- PC Personnel, introduced in 1990, is a PC-based system for integrated personnel and payroll data designed for medium-sized payroll clients. There are currently over 2,000 ADP clients using PC/Personnel.

ADP offers full-service recordkeeping, communication, enrollment, and reporting systems, operating in conjunction with client data bases, for and IRS-approved prototype 401(k) plan.

Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates, and analyzes the client's various financial options.

ADP continues to provide generic accounts receivable, accounts payable, time analysis, general ledger, and financial reporting services to 10,000 to 20,000 businesses. This client base now has the option to use client-site PCs connected to ADP's regional centers' mainframe systems.

Brokerage Services:

ADP's back-office stock brokerage and related financial transaction processing services include brokerage processing, cage management, stock loan accounting, on-line inquiry and data collection, portfolio reporting, order matching, and on-line trading.

- ADP also provides processing services to brokers and traders in commodity contracts, commodity futures, and options. These services are offered in the U.S. and Canada through an operations center in Jersey City (NJ).

Front-office data base and quotation electronic information services, provided by ADP to the investment and brokerage community, include supplying quotations, financial news, and other information to terminals located on brokers' desks.

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- ADP supports approximately 70,000 market data services terminals at over 3,000 locations. Most of these terminals are FS Partner intelligent workstations, supported by IBM PS/2 PC servers, and operating on more than 1,500 LANs.

- FS-Partner, ADP's stock quote and branch automation service, is an IBM PS/2-based service that links microcomputers with various stock exchanges, ADP computers, and client computers to provide market data and proprietary brokerage and management information applications for the front office. FS-Partner clients include Merrill Lynch, Shearson Lehman, First Boston, Smith Barney, and Kidder Peabody.

- Front-office and quote operations are supported from a data center in Mt. Laurel (NJ).

ADP also provides on-line, real-time services for all active commodities, currencies, and interest rate futures trading.

Proxy Services are provided to more than 750 clients, including brokerage houses and companies, in the U.S. and Canada. Services include handling all shareholder mailings from an issuer to its shareholders who elect to leave their stock in street name in the custody of their stockbroker. During fiscal 1992, ADP handled over 80 million mailings for more than 9,000 publicly-held companies.

During fiscal 1992, ADP initiated a satellite-based communications system with Hughes Network Systems to enhance the capabilities of its communications network.

ADP Dealer Services:

ADP Dealer Services provides network services and turnkey systems to more than 6,500 auto and truck dealers in the U.S. and Canada and a separate product set to over 1,000 German auto dealers. Services are also provided to manufacturers of agricultural equipment and boats in the U.S. and Canada. ADP now serves over 35% of all auto and truck dealers in North America.

- Applications available include inventory control, general accounting control, lease management, automated parts cataloging, parts invoicing, service merchandising, finance and insurance, repair order billing, accounts payable, check-writing, payroll processing, and laser form printing services.

- ADP MAX 8800 features UNIX-based software and RISC technology. It can support a dealership of virtually any size--from a

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single franchise to a multi-franchise, mega-dealer operation, with over 500 terminals.

- ADP's M-400 Electronic Business System for small dealers is based on Motorola microcomputers. The turnkey system supports a range of functions, from integrated accounting to dealer-to-factory communications.

- Electronic Price Book is a real-time point-of-sale system that allows dealer salespeople to price alternative car models at a computer terminal.

- ADP Lease Quote™, introduced in 1992, allows dealers to simultaneously compare multiple leasing sources, giving sales personnel the ability to show customers side-by-side funds sources and buy-versus-lease comparisons.

ADP's Manufacturer-Dealer Communications Service uses an on-site computer to link manufacturers with their dealers for ordering vehicles, warranty claims processing, delivery reporting, pricing updates, and vehicle and parts locating. These dealerships can also use the service for other processing functions such as financial reporting and inventory management.

ADP also provides data communication networks to link dealers to state department of motor vehicle data bases for lienholder and drivers license information and vehicle registration services.

ADP Automotive Claims Services (ACS):

ACS provides computerized estimating services to auto insurers and repairers in the U.S. and Canada related to auto collision repair and valuation. Nine of the top auto insurers in the U.S. and Canada are clients of ACS.

ACS has four main product lines as follows:

- Audatex is an on-line collision repair estimating service. The system links portable and stationary client terminals to ADP's proprietary data base in Ann Arbor (MI). The data base contains parts descriptions, part numbers, current part prices, and cost and labor hours information on repairing and replacing parts for virtually all models of autos and trucks produced since 1970.

  - PC-1000, introduced in 1990, is a handheld portable collision estimating terminal designed for mobile claims adjusters. There are currently over 1,000 PC-1000 terminals in use by several major insurance carriers.

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- Vehicle Valuation Services (formerly AutoTrak) is an automated valuation service by which ADP provides reports to its clients to enable them to determine the value of cars or trucks that have suffered a total loss. This data base contains current pricing information based on millions of used cars that are advertised for sale by car dealers and individual owners in the U.S. and Canada and sales records of certain auto dealer clients.

- Parts Exchange is an automated parts locating and pricing service provided to insurers, manufacturers, distributors, and repair shops. The service offers data, including comparative costs, location, and availability, on parts from more than 1,000 stocking distributors.

  - Parts Exchange-New searches for new parts availability of over 3 million parts from more than 1,000 stocking distributors.

  - Parts Exchange-Salvage, introduced in fiscal 1992 provides identification, pricing, and location of recycled parts available from dismantlers and salvage yards throughout the U.S.

- Shoplink enables body shops to transmit repair estimates and digitized images of damaged autos directly to an insurance company for claim approval. About 500 high quality repair shops now use this service.

ACS is a major user of ADP's Autonet network for data communications between insurance company claim centers and ADP's data base of auto parts and repair-labor information.

ACS also has released Audapoint, the next generation of automated estimating. Audapoint is based on a digitized, interactive data base. Graphics, text, and data are stored on CD ROM for interactive access on portable/laptop computers. The company plans to also offer pen-based technology for data entry.

Other:

ADP Network Services also maintains ADP's Autonet packet-switched teleprocessing network. Autonet's prime function is to aid other ADP divisions with more efficient data communications.

Industry Markets

ADP's revenue is primarily derived from various businesses, banks, and CPAs for payroll and related services; automotive dealers and manufacturers; brokerage firms; and insurance companies.

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Geographic Markets

Approximately 94% of ADP's revenue is derived from U.S. operations, with the remainder from the U.K., Western Europe, and Canada.

Computer Hardware

ADP uses more than 100 mainframes (excluding minicomputers) in its various data centers.

- Employer Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 4300 systems and Magnuson mainframes.
- Brokerage Services maintains operations centers in Mt. Laurel and Jersey City (NJ) using primarily IBM, DEC, and Amdahl systems.
- Dealer Services' primary data center, located in Schaumberg (IL), uses Microdata and Motorola computers.
- Automotive Claims Services uses the Network Services data center in Ann Arbor to provide services to its clients.
- ADP Network Services maintains its primary data center in Ann Arbor (MI). Equipment used to provide network services includes a large number of DEC System 10s and 20s and DEC VAXs.

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AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Josh S. Weston, Chairman and CEO
Public Corporation, NYSE
Total Employees: 19,000 (6/91)
Total Revenue, Fiscal Year End
6/30/91: $1,771,751,000

The Company

Automatic Data Processing, Inc. (ADP) was formed in 1949 as Automatic Payrolls, Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961 ADP computerized its operations and went public.

Payroll and related services still provide the major share of ADP's revenue; however, the company also derives significant revenues from brokerage services, services to automotive dealers, and automotive claims services for automobile insurers and repairers. The company currently provides information and processing services to more than 250,000 clients worldwide.

ADP reported revenue of over $1.77 billion in fiscal 1991, a 3% increase over fiscal 1990 revenue of $1.71 billion. Net income rose 8%, from $211.7 million in fiscal 1990 to $227.7 million in fiscal 1991. A five-year financial summary follows:

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AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	6/91	6/90	6/89	6/88	6/87
Revenue	$1,771.8	$1,714.0	$1,677.7	$1,549.2	$1,384.2
· Percent increase from previous year	3%	2%	8%	12%	15%
Income before taxes	$299.6	$285.3	$271.8	$255.0	$221.9
· Percent Increase from previous year	5%	5%	7%	15%	21%
Net income	$227.7	$211.7	$187.6	$170.3	$132.0
· Percent increase from previous year	8%	13%	10%	29%	25%
Earnings per share (a)	$1.63	$1.44	$1.13	$1.07	$0.84
· Percent increase from previous year	13%	27%	5%	27%	20%

(a) Restated to reflect a 2-for-1 stock split effective May 1, 1991.

ADP management attributed the company's continued growth in revenue and earnings primarily to the expansion of its client base and new product offerings.

- Revenue growth for fiscal 1991 was strongest in Employer Services, which grew at a double-digit rate in fiscal 1991 and is expected to continue that growth rate in fiscal 1992.

- Dealer Services and Automotive Claims Services grew at single-digit levels primarily because of industry weakness. Both businesses anticipate a slightly improved revenue growth rate in fiscal 1992.

- Brokerage Services declined by almost 5% due to the uncertain Wall Street environment.

Systems development and programming expenditures were approximately $105 million (6% of revenue) in fiscal 1991, $90 million (5% of revenue) in fiscal 1990, and $86 million (5% of revenue) in fiscal 1989.

Recent acquisitions made by ADP include the following:

- In August 1990, ADP acquired IICC, a Canadian proxy services business which serves approximately 30 Canadian brokerage

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firms. These operations have been merged into ADP's Brokerage Services business unit.

- During fiscal 1990, ADP acquired the payroll processing services businesses of several banks.

During fiscal 1990 and 1989, ADP made several divestitures representing approximately 8% of annual revenues.

- Components sold include bank and thrift processing, Canadian brokerage quotation services, manufacturing turnkey systems, automated teller and real estate services, and an 81% interest in its Brazilian subsidiary.

- Proceeds from the sales were approximately $87 million in fiscal 1990 and $96 million in fiscal 1989.

- During fiscal 1990, ADP also transferred the hardware maintenance function for brokerage quotation terminals from ADP's in-house staff to IBM.

ADP's current organization structure is shown in the exhibit. The company is currently organized into four major groups as follows:

- Employer Services, with more than 10,000 employees, provides payroll processing, payroll tax filing, job costing, labor distribution, unemployment compensation management, and personnel information services.

  - Employer Services also adminsters a shrinking batch Accounting Services business (which was formerly included in the Interactive Business Services unit), providing generic accounts receivable, accounts payable, time analysis, and general ledger/financial reporting transaction processing services.

- The Brokerage Services Group includes the following businesses:

  - "Back-office" recordkeeping processing services

  - "Front-office" data base and stock quotation electronic information services to the investment/brokerage industry

  - Proxy Services shareholder mailing services

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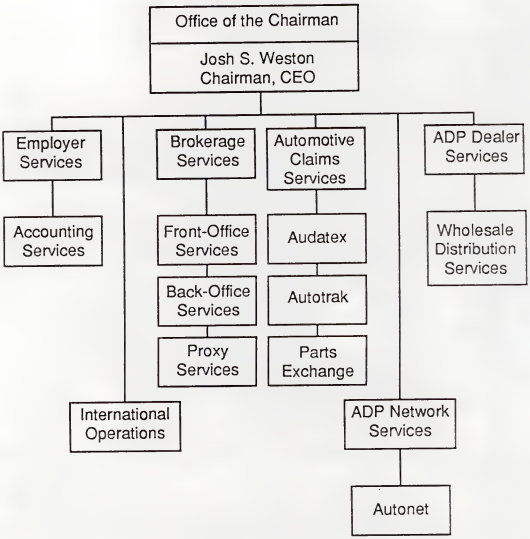
EXHIBIT

ADP Organization Chart



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- Automotive Claims Services provides claims estimating processing services and electronic information services for vehicle valuation and parts locating and pricing to automobile insurers, manufacturers, and repairers.

- ADP Dealer Services provides processing and network services and turnkey systems to auto, truck, farm, and heavy equipment dealers.

Key Products and Services

INPUT estimates ADP's fiscal 1991 revenue was derived approximately as follows:

Processing services	75%
Network services	17%
Turnkey systems	8%
	100%

A two-year summary of ADP's source of revenue by major operating group, as estimated by INPUT, follows:

AUTOMATIC DATA PROCESSING, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR			
	6/91		6/90	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Employer Services	$1,055	59%	$960	56%
Brokerage Services	345	20%	360	21%
Dealer Services	178	10%	175	10%
Automotive Claims	105	6%	90	5%
Other (a)	89	5%	129	8%
TOTAL	**$1,772**	**100%**	**$1,714**	**100%**

(a) Includes international operations and ADP Network Services.

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Employer Services:

Employer Services are provided to clients engaged in a wide variety of businesses. In addition to marketing its services directly, ADP has marketing relationships with many banks and CPAs whereby ADP offers its services to their clients and prospective clients. Employer Services are offered from ADP's regional centers located throughout the U.S. ADP also has data processing centers in Western Europe and Canada. On payday, ADP pays 11 million workers, representing an estimated 10% of the U.S. workforce.

Employer services include payroll processing and related payroll tax filing, personnel recordkeeping and reporting, unemployment compensation management, and specialized management reports to over 200,000 clients.

ADP's payroll services are its largest single form of service and are provided from over 40 regional processing centers in the U.S. and from centers in London, Rotterdam, Toronto, and Montreal.

- ADP's payroll services include automatic deposit, quarterly and annual social security and income tax withholding reports, W-2 withholding statements for employees, a complete record of payments for each pay period, and periodic employee historic earnings records. Also included are special statistical and audit reports for management, such as payroll and job cost distribution reports, welfare and pension fund reports, and payroll audit reports.

- AutoPay I Payroll service targets small clients with 5 to 19 employees.

- ADP's AutoPay II payroll service focuses on companies with 25 to 500 employees. ADP has over 100,000 clients in this segment.

- AutoPay Plus, introduced in 1983, includes an integrated payroll and tax filing service for companies with fewer than 25 employees.

- The National Accounts Division sells payroll services to companies with over 500 employees.

- Over 50,000 ADP payroll clients now use microcomputers for payroll input to ADP. This PC/Payroll service is targeted to accounts with 50 or more employees. Easypay, introduced in late 1989, is a simplified PC service for smaller payroll clients.

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- ADP's Payroll Tax Filing service processes and remits federal, state, and local payroll withholding taxes. Currently, over 170,000 of ADP's payroll clients use ADP's tax filing service.

- ADP HR Partner, introduced in 1990, is an IBM and compatible PC-based integrated human resources, benefits, and payroll information system that interfaces with ADP's AutoPay and Payroll Tax Filing processing services.

- ADP's Management Reports assist clients in reviewing key financial and employee information on a regular basis according to their specific requirements.

- The Interactive Payroll and Personnel (IPP) Service is an on-line processing service targeted primarily to companies with more than 500 employees and multiple locations.

  - Personnel and payroll data are entered on a terminal supplied by ADP or a microcomputer. The terminal is linked to a regional ADP computing center via Autonet.

  - The IPP system provides automatic updates of personnel files adjusted to reflect payroll activity.

  - The system provides a range of payroll-related services, including filing of federal, state, and local taxes, unemployment cost control, and various management reports, printed on-site.

- PC/Personnel, introduced in 1990, is a PC-based system for integrated personnel and payroll data designed for large, single-site clients. There are currently over 2,000 ADP clients using PC/Personnel.

Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates, and analyzes the client's various financial options.

ADP continues to provide generic accounts receivable, accounts payable, time analysis, general ledger, and financial reporting services to 10,000 to 20,000 businesses. This client base now has the option to use client-site PCs connected to ADP's regional centers' mainframe systems.

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Brokerage Services:

ADP's back-office stock brokerage and related financial transaction processing services include brokerage processing, cage management, stock loan accounting, on-line inquiry and data collection, portfolio reporting, order matching, and on-line trading.

- ADP also provides processing services to brokers and traders in commodity contracts, commodity futures, and options. These services are offered in the U.S. and Canada through an operations center in Jersey City (NJ).

Front-office data base and quotation electronic information services, provided by ADP to the investment and brokerage community, include supplying quotations, financial news, and other information to terminals located on brokers' desks.

- ADP now has nearly 70,000 quotation terminals and workstations in use by more than 1,000 clients across North America. Hardware maintenance for these systems is performed by IBM.

- Front-office and quote operations are supported from a data center in Mt. Laurel (NJ).

FS-Partner, ADP's stock quote and branch automation service, is an IBM PS/2-based service that links microcomputers with various stock exchanges, ADP computers, and client computers to provide market data and proprietary brokerage and management information applications for the front office.

- FS-Partner has been installed in over 1,000 Merrill Lynch and Shearson Lehman offices nationwide under contracts awarded to ADP during calendar 1987.

ADP also provides on-line, real-time services for all active commodities, currencies, and interest rate futures trading.

ADP Dealer Services:

ADP Dealer Services provides network services and turnkey systems to nearly 7,000 auto, truck, farm, and heavy equipment dealers throughout the U.S. and Canada.

- Applications available include inventory control, general accounting control, lease management, parts cataloguing, parts invoicing, service merchandising, finance and insurance, repair order billing, accounts payable, check-writing, payroll processing, and laser form printing services.

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- ADP's M-400 Electronic Business System for small dealers is based on Motorola microcomputers. The turnkey system supports a range of functions, from integrated accounting to dealer-to-factory communications.

- Electronic Price Book is a real-time point-of-sale system that allows dealer salespeople to price alternative car models at a computer terminal.

ADP's Manufacturer-Dealer Communications Service uses an on-site computer to link manufacturers with their dealers for ordering vehicles, warranty claims processing, delivery reporting, pricing updates, and vehicle and parts locating. These dealerships can also use the service for other processing functions such as financial reporting and inventory management.

- During 1990, ADP reached an agreement with Chrysler to provide a nationwide parts locator service to nearly 5,000 Chrysler dealers. This service permits any Chrysler dealer, whether an ADP client or not, to locate needed parts from anywhere in the Chrysler system.

ADP continues to support Distribution 2000™, a minicomputer-based turnkey system targeted to the wholesale distribution industry. Distribution 2000 supports front-office order entry, back-office accounting, purchase order, and inventory management.

ADP Automotive Claims Services (ACS):

ACS provides computerized estimating services to auto insurers and repairers in the U.S. and Canada related to auto collision repair and valuation.

ACS has three main product lines as follows:

- Audatex is an on-line collision repair estimating service. The system links portable and stationary client terminals to ADP's proprietary data base in Ann Arbor (MI). The data base contains parts descriptions, part numbers, current part prices, and cost and labor hours information on repairing and replacing parts for virtually all models of autos and trucks produced since 1970.

  - PC-1000, introduced in 1990, is a handheld portable collision estimating terminal designed for mobile claims adjusters. There are currently over 1,000 PC-1000 terminals in use by several major insurance carriers.

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- AutoTrak is a valuation service for cars and trucks used by insurance companies to determine a fair replacement price on vehicles that are a total loss. Autotrak valuations are produced from a computerized data base with pricing information on about three million used cars that have been recently advertised by car owners or dealers.

- Parts Exchange is an automated parts locating and pricing service provided to insurers, manufacturers, distributors, and repair shops. The service offers data, including comparative costs, location, and availability, on over two million parts from more than 1,000 stocking distributors.

ACS is a major user of ADP's Autonet network for data communications between insurance company claim centers and ADP's data base of auto parts and repair-labor information.

Eighteen of the 20 largest auto insurance companies in North America are ACS clients.

Other:

ADP Network Services also maintains ADP's Autonet packet-switched teleprocessing network. Autonet's prime function is to aid other ADP divisions with more efficient data communications.

Industry Markets

ADP's revenue is primarily derived from various businesses, banks, and CPAs for payroll and related services; automotive dealers and manufacturers; brokerage firms; and insurance companies.

Geographic Markets

Approximately 94% of ADP's revenue is derived from U.S. operations, with the remainder from the U.K., Western Europe, and Canada.

Computer Hardware

ADP uses more than 100 mainframes (excluding minicomputers) in its various data centers.

- Employer Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 4300 systems and Magnuson mainframes.

- Brokerage Services maintains operations centers in Mt. Laurel and Jersey City (NJ) using primarily IBM, DEC, and Amdahl systems.

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- Dealer Services' primary data center, located in Schaumberg (IL), uses Microdata and Motorola computers.
- Automotive Claims Services uses the Network Services data center in Ann Arbor to provide services to its clients.
- ADP Network Services maintains its primary data center in Ann Arbor (MI). Equipment used to provide network services includes a large number of DEC System 10s and 20s and DEC VAXs.

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AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Josh S. Weston, Chairman, President, and CEO
Public Corporation, NYSE
Total Employees: 21,000 (6/89)
Total Revenue, Fiscal Year End 6/30/89: $1,677,688,000

The Company

Automatic Data Processing, Inc. (ADP) was formed in 1949 as Automatic Payrolls, Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961 ADP computerized its operations and went public.

Since the early 1960s, ADP has implemented an active acquisition program to diversify from its primary business of providing payroll services. Payroll and accounting services still provide the major share of ADP's revenue; however, significant gains have been made in brokerage, services to automotive dealers, and automotive claims services for automobile insurers and repairers. The company now provides information and processing services to more than 200,000 clients worldwide.

ADP reported revenue of over $1.67 billion in fiscal 1989, an 8% increase over fiscal 1988 revenue of $1.55 billion. Net income rose 10%, from $170 million in fiscal 1988 to $187.6 million in fiscal 1989. A five-year financial summary follows:

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AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	6/89	6/88	6/87	6/86	6/85
Revenue	$1,677,688	$1,549,157	$1,384,236	$1,204,246	$1,031,493
• Percent increase from previous year	8%	12%	15%	17%	16%
Income before taxes	$271,800	$254,985	$221,910	$183,500	$154,583
• Percent increase from previous year	7%	15%	21%	19%	16%
Net income	$187,570	$170,300	$132,030	$105,960	$87,600
• Percent increase from previous year	10%	29%	25%	21%	17%
Earnings per share	$2.46	$2.14	$1.68	$1.40	$1.22
• Percent increase from previous year	15%	27%	20%	15%	15%

ADP management attributed the company's continued growth in revenue and earnings primarily to the expansion of its client base and new product offerings.

- Revenue growth for fiscal 1989 was strongest in Employer Services and Dealer Services, which together represented approximately 60% of ADP's total revenue.

- ADP management states that consolidated revenue growth was negatively affected by the impact of soft Wall Street conditions on the company's Brokerage Services business. Reduced trading volume, fewer quote terminals, and price pressures resulted in an approximate 10% revenue decline in Brokerage Services and the business operated at a loss during fiscal 1989.

Systems development and programming expenditures were $86 million (5% of revenue) in fiscal 1989, $72.1 million (5% of revenue) in fiscal 1988, and $55.7 million (4% of revenue) in fiscal 1987.

ADP management predicts modest revenue growth during fiscal 1990 and double-digit growth (10% to 15%) in earnings per share.

- Revenue for the six months ending December 31, 1989 was $414 million, as compared with $409 million for the same

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period in 1988. Net income for the period was nearly $50 million, compared to $44 million for the same period in 1988.

Recent ADP acquisitions include the following:

- In July 1989, ADP acquired Automatic Business Centers, Inc. (ABC) of Moorestown (NJ). ABC is a regional processing company that provides payroll services to approximately 11,000 companies in the Northeast. Terms of the purchase were not disclosed.

ADP has made several divestitures which are expected to reduce fiscal 1990 revenue by approximately 8%:

- In the fourth quarter of fiscal 1989, ADP sold its automated teller business to Electronic Data Systems and its real estate service business to a private company.
  - Cash proceeds from the sales were approximately $93 million and notes receivable totaled $2.5 million, resulting in a non-recurring pretax gain of approximately $66 million for fiscal 1989.
  - These businesses contributed approximately 3% ($50 million) of ADP's annual consolidated revenue.
- During the first quarter of fiscal 1990, ADP sold its banking and thrift processing services business to Welsh, Carson, Anderson & Stowe and its Canadian brokerage quotation service to a private company. These transactions resulted in a pre-tax gain of approximately $48 million.
- In early 1990, ADP sold its Manufacturing Services business to the division's management. This unit provided turnkey systems for manufacturing and financial control applications to small- to medium-sized manufacturers.

ADP's current organization structure is shown in the exhibit. The company is currently organized into six major groups as follows:

- Employer Services, with more than 10,000 employees, provides payroll processing, payroll tax filing, job costing, labor distribution, unemployment compensation management, and personnel information services.
  - Accounting Services (which was formerly included in the Interactive Business Services unit) provides generic accounts

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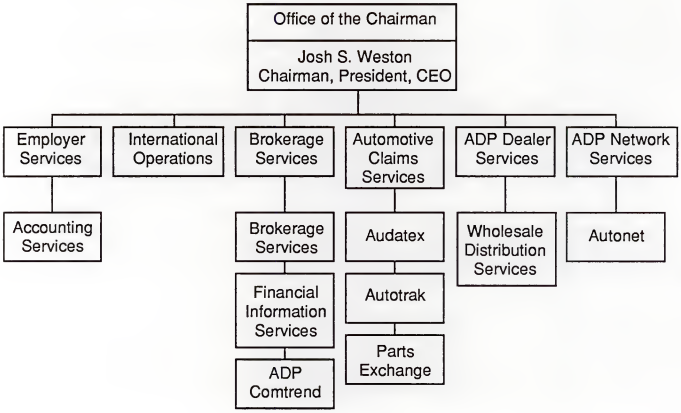
Exhibit

ADP Organization Chart



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receivable, accounts payable, time analysis, and general ledger/financial reporting transaction processing services.

- The Brokerage Services Group includes the following businesses:

  - Brokerage Services provides "back-office" recordkeeping processing services.

  - Financial Information Services provides data base and stock quotation electronic information services to the investment/brokerage industry.

  - ADP Comtrend provides an on-line service for commodity, currency, and interest rate futures trading.

- Automotive Claims Services (formerly Collision Estimating Services) provides claims estimating processing services and electronic information services for vehicle valuation and parts locating and pricing to automobile insurers, manufacturers, and repairers.

- ADP Dealer Services provides processing and network services and turnkey systems to auto, truck, farm, and heavy equipment dealers.

  - Wholesale Distribution Services (which was formerly included in the Interactive Business Services unit) provides turnkey systems for order entry, invoicing, accounting, and inventory services, and other front-end/back-office applications to small- to medium-sized wholesalers and distributors.

- ADP Network Services provides remote computing and on-site distributed processing services and packet switched value-added public data network services.

Key Products and Services

INPUT estimates ADP's fiscal 1989 revenue was derived approximately as follows:

Processing services	75%
Network services	13%
Turnkey systems	12%
	100%

A three-year summary of ADP's source of revenue by major operating group, as estimated by INPUT follows:

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AUTOMATIC DATA PROCESSING, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/89		6/88		6/87	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Employer Services	$840	50%	$734	47%	$623	45%
Financial/Brokerage Services (a)	434	26%	424	27%	402	29%
Dealer Services	190	11%	163	11%	138	10%
Automotive Claims Services	80	5%	73	5%	69	5%
Interactive Business Services (b)	94	6%	103	7%	97	7%
Network Services	40	2%	52	3%	55	4%
TOTAL	**$1,678**	**100%**	**$1,549**	**100%**	**1,384**	**100%**

(a) Includes revenue from businesses divested during 1989, including automated teller, real estate, and banking and thrift services. Brokerage Services revenue was an estimated $335 million (20% of revenue) in fiscal 1989, compared to $375 million (25% of revenue) in fiscal 1988.

(b) Includes revenue from Accounting Services and Wholesale Distribution Services, which now report to separate units, and Manufacturing Services, which was sold in early 1990.

Employer Services are provided to clients engaged in a wide variety of businesses. In addition to marketing its services directly, ADP has marketing relationships with many banks and CPAs whereby ADP offers its services to their clients and prospective clients. Employer services are offered from ADP's regional centers located throughout the U.S. ADP also has data processing centers in Western Europe, Brazil, and Canada. On payday, ADP pays 11 million workers, representing an estimated 10% of the U.S. workforce.

- Employer services include payroll processing and related payroll tax filing, personnel recordkeeping and reporting, unemployment compensation management, and specialized management reports to over 200,000 clients.

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- ADP's payroll services are its largest single form of service and are provided from over 40 regional processing centers in the U.S. and from centers in London, Rotterdam, Campinas, San Paulo, Rio de Janeiro, Toronto, and Montreal.

- ADP's payroll services include automatic deposit, quarterly and annual social security and income tax withholding reports, W-2 withholding statements for employees, a complete record of payments for each pay period, and periodic employee historic earnings records. Also included are special statistical and audit reports for management, such as payroll and job cost distribution reports, welfare and pension fund reports, and payroll audit reports.

- Autopay I Payroll service targets small clients with 5 to 19 employees.

- ADP's Autopay II payroll service focuses on companies with 25 to 500 employees. ADP has over 100,000 clients in this segment.

- Autopay Plus, introduced in 1983, includes an integrated payroll and tax filing service for companies with fewer than 25 employees.

- The National Accounts Division sells payroll services to companies with over 500 employees.

- ADP's automated payroll tax impound and filing service processes and remits federal, state, and local payroll withholding taxes. Currently, more than half of ADP's payroll clients use ADP's tax filing service.

- ADP's interactive personnel recordkeeping and reporting systems, operating in conjunction with the payroll data base, provide salary, benefits, and EEO compliance reports and various other information needs for personnel administration.

- Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates, and analyzes the client's various financial options.

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- The Interactive Payroll and Personnel (IPP) Service, is an on-line processing service targeted primarily to companies with more than 500 employees and multiple locations.

  - Personnel and payroll data are entered on a terminal supplied by ADP or a microcomputer. The terminal is linked to a regional ADP computing center via Autonet.

  - The IPP system provides automatic updates of personnel files adjusted to reflect payroll activity.

  - The system provides a range of payroll-related services, including filing of federal, state, and local taxes, unemployment cost control, and various management reports, printed on-site.

- Over 35,000 ADP payroll clients now use microcomputers for payroll input to ADP. This PC-Payroll service (formerly called PC-Connection) is targeted to accounts with 50 or more employees. In late 1989, ADP introduced Easypay, a simplified PC service for smaller payroll clients.

- HR Partner, to be introduced in pilot mode in April 1990, is a service that enables a client to integrate personnel records and payroll information for use by both payroll and human resource managers.

- ADP continues to provide generic accounts receivable, accounts payable, time analysis, general ledger, and financial reporting services to 10,000 to 20,000 businesses. This client base now has the option to use client-site PCs connected to ADP's regional centers' mainframe systems.

ADP's Brokerage Services business includes the following products and services:

- Back-office stock brokerage and related financial transaction processing services include brokerage processing, cage management, stock loan accounting, on-line inquiry and data collection, portfolio reporting, order matching, and on-line trading. ADP also provides processing services to brokers and traders in commodity contracts, commodity futures, and options. These services are offered in the U.S. and Canada. During fiscal 1989, ADP consolidated its back-office processing services into an operations center in Jersey City (NJ).

- Front-office data base and quotation electronic information services, provided by ADP to the investment and brokerage

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community, include supplying quotations, financial news, and other information to terminals located on brokers' desks.

- ADP now has over 55,000 traditional quotation terminals in worldwide use by more than 1,000 clients. In August 1989, ADP transferred the hardware maintenance function for these terminals to IBM. In addition, there are over 7,000 new micro-based workstations in over 300 client sites. During fiscal 1989, ADP consolidated its front-office and quote operations into a data center in Mt. Laurel (NJ).

- ADP's stock quote and branch automation service, FS-Partner, is an IBM PS/2-based service that links microcomputers with various stock exchanges, ADP computers, and client computers to provide market data and proprietary brokerage and management information applications for the front office. FS-Partner is currently being installed in Merrill Lynch and Shearson Lehman Hutton offices under contracts awarded to ADP during calendar 1987.

• ADP Comtrend provides predominantly on-line, real-time services for all active commodities, currencies, and interest rate futures trading.

- Comtrend's Videcom[R] Financial Information Service provides quotations by telecommunications lines and satellite broadcast, and presents the futures data through a terminal which graphically displays price and volume movements in each futures contract.

- Comtrend provides its services to subscribers in the U.S., Europe, and Hong Kong.

ADP Automotive Claims Services (ACS) provides computerized estimating services to auto insurers and repairers in the U.S. and Canada related to auto collision repair and valuation.

• ACS has three main product lines as follows:

- Audatex is an on-line collision repair estimating service. The system links 2,500 client-site terminals and about 2,500 claims adjusters' portable terminals to ADP's proprietary data base in Ann Arbor (MI). The data base contains cost and labor hours information on repairing and replacing parts for virtually all models of autos and trucks produced since 1970.

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- AutoTrak is a valuation service for cars and trucks used by insurance companies to determine a fair replacement price on vehicles that are a total loss. Autotrak valuations are produced from a computerized data base with pricing information on about three million used cars that have been recently advertised by car owners or dealers.

- Parts Exchange is an automated parts locating and pricing service provided to insurers, manufacturers, distributors, and repair shops. The service offers data, including comparative costs, location, and availability, on more than 900,000 parts.

- The division is a major user of ADP's Autonet network for data communications between insurance company claim centers and ADP's data base of auto parts and repair-labor information.

- During 1989, ACS began testing a PC-based mobile data entry, editing, printing, and communication terminal for use by mobile claims adjusters when estimating repair costs in remote locations. General availability is scheduled for the spring of 1990.

- ACS also offers a tele-estimating service for remote adjusters in low-volume locations.

- Eighteen of the 20 largest auto insurance companies in North America are ACS clients.

ADP Dealer Services provides network services and turnkey systems to over 6,500 auto, truck, farm, and heavy equipment dealers throughout the U.S. and Canada. Client retention reached 95% in fiscal 1989.

- Applications available include inventory control, general accounting control, lease management, parts invoicing, service merchandising, finance and insurance control, repair order billing, accounts payable, check-writing, and word processing.

- ADP's on-site system for franchised dealers is offered on a Microdata minicomputer. It can operate as a standalone system or be used on a shared basis.

- ADP's Manufacturer-Dealer Communications Service uses an on-site computer to link manufacturers with their dealers for ordering, warranty claims processing, delivery reporting, pricing updates, and vehicle locating. These dealerships can also use the service for other processing functions such as financial reporting and inventory management.

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- New services introduced during fiscal 1989 include the following:

  - Automated Parts Cataloging (APC) provides digitized computer disc storage of "how to" parts catalogs from several auto manufacturers.

  - Electronic Repair Orders (ERO) integrates repair shop scheduling, parts ordering, and customer billing functions.

- Wholesale Distribution Services, formerly part of ADP's Interactive Business Services unit, provides Distribution 2000™, a minicomputer-based turnkey system targeted to the wholesale distribution industry. Distribution 2000 supports front office order entry, back office accounting, purchase order, and inventory management. A specialized service group works with these clients, whose annual sales typically range between $2 million and $100 million.

ADP Network Services provides both general and specialized management-oriented on-line services, primarily to major corporations, large financial institutions, and government organizations in the U.S. and Western Europe.

- ADP Network Services also maintains ADP's Autonet packet-switched teleprocessing network. Autonet's prime function is to aid other ADP divisions with more efficient data communications.

- Treasury Management (CashExpress) is Network Services' leading industry-specific service. It permits banks throughout the world to provide corporate treasurers with instant access to current deposit and account information.

  - The CashExpress Workstation is a low-cost, microcomputer-based cash management system designed to run on the IBM PC/XT. The system uses the MDBS III data base management system for rapid data access from ADP's mainframe computers, and includes the Lotus 1-2-3 spreadsheet software for development of forecasts, charts, and graphs in preformatted programs or user-customized formats.

  - Applications are available for MIS, deposit, and balance reporting; cash analysis; bank relationships management; funds transfer; and related services.

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- Currently, over 9,000 corporate clients obtain these services through more than 130 ADP sponsor banks.

- ADP Network Services also offers the APECS/8000 project management turnkey system based on DEC MicroVAX II and AT&T 3B-series computers. APECS/8000 is also available on ADP's network.

Industry Markets

ADP's revenue is primarily derived from various businesses, banks, and CPAs for payroll and related services; automotive dealers and manufacturers; brokerage firms; and insurance companies.

Geographic Markets

Approximately 95% of ADP's revenue is derived from U.S. operations, with the remainder from the United Kingdom, Western Europe, Canada, and Brazil.

- Combined revenue from Canadian business, ADP's largest foreign market, reached nearly $50 million in fiscal 1989.

- Revenue from Brazil increased 20% over fiscal 1988 levels. However, profit growth was negatively impacted by inflation.

Computer Hardware

ADP uses more than 100 mainframes (excluding minicomputers) in its various data centers.

- ADP Network Services maintains its primary data center in Ann Arbor (MI). Equipment used to provide network services includes a large number of DEC System 10s and 20s and DEC VAXs.

- Employer and Accounting Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 4300 systems and Magnuson mainframes.

- Brokerage Services maintains operations centers in Mt. Laurel and Jersey City (NJ) using primarily IBM, DEC, and Amdahl systems. ADP Comtrend uses a data center in Stamford (CT).

- Dealer Services' primary data center, located in Schaumberg (IL), uses Microdata computers.

- Automotive Claims Services uses the Network Services data center in Ann Arbor to provide services to its clients.

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FINANCIAL UPDATE TO PROFILE DATED MARCH 1987

AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Josh S. Weston, Chairman and CEO
William J. Turner, President and COO
Public Corporation, NYSE
Total Employees: 21,000
Total Revenue, Fiscal Year End
6/30/87: $1,384,236,000

AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

Item \ Fiscal Year	6/87	6/86	6/85	6/84	6/83
Revenue	$1,384,236	$1,204,246	$1,031,493	$ 889,862	$ 753,296
. Percent increase from previous year	15%	17%	16%	18%	11%
Income before taxes	$ 221,910	$ 183,500	$ 154,583	$ 133,231	$ 115,285
. Percent increase from previous year	21%	19%	16%	16%	9%
Net income	$ 132,030	$ 105,960	$ 87,600	$ 75,030	$ 64,521
. Percent increase from previous year	25%	21%	17%	16%	13%
Earnings per share	$ 1.68	$ 1.40	$ 1.22	$ 1.06	$ 0.92
. Percent increase from previous year	20%	15%	15%	15%	11%

- Revenue for the three months ending September 30, 1987 reached $361.3 million, an increase of 13% over $321.1 million for the same period in fiscal 1986. Net income increased 34% to $30.4 million, from $22.7 million the previous year.

SOURCE OF REVENUE

- A three-year summary of ADP's source of revenue by major operating group, as estimated by INPUT, follows ($ millions):

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Item \ Fiscal Year	6/87		6/86		6/85	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Employer Services	$623	45%	$537	45%	$455	44%
Accounting Services	97	7	114	9	111	11
Financial Services	402	29	310	26	265	26
Collision Estimating Services	69	5	45	4	25	2
Dealer Services	138	10	140	12	115	11
Network Services	55	4	58	4	60	6
Total	$1,384	100%	$1,204	100%	$1,031	100%

- Approximately 95% of ADP's revenue (for both fiscal 1987 and 1986) was derived from U.S. operations, with the remainder from foreign sources.
- As of June 30,1987, ADP served 175,000 clients.

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COMPANY PROFILE

AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Josh S. Weston, Chairman and CEO
William J. Turner, President
Public Corporation, NYSE
Total Employees: 20,000
Total Revenue, Fiscal Year End
6/30/86: $1,204,246,000

THE COMPANY

- Automatic Data Processing, Inc. (ADP) was formed in 1949 as Automatic Payrolls Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961 ADP computerized its operations and went public.

- Since the early 1960s ADP has implemented an active acquisition program to diversify from its primary business of providing payroll services. Payroll and accounting services still provide the major share of ADP's revenue; however, significant gains have been made in brokerage, banking, and thrift services, services to automotive dealers, and collision estimating services for the insurance industry. The company now provides information and processing services to more than 150,000 clients worldwide.

- ADP reported revenue of $1.2 billion in fiscal 1986, a 17% increase over fiscal 1985 revenue of $1 billion. Net income rose 21% to $106 million, from $87.6 million the previous year. A five-year financial summary follows:

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AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY (a)
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/86	6/85	6/84	6/83	6/82
Revenue	$ 1,204,246	$ 1,031,493	$ 889,862	$ 753,296	$ 677,070
. Percent increase from previous year	17%	16%	18%	11%	N/A
Income before taxes	$ 183,500	$ 154,583	$ 133,231	$ 115,285	$ 105,471
. Percent increase from previous year	19%	16%	16%	9%	N/A
Net income	$ 105,960	$ 87,600	$ 75,030	$ 64,521	$ 56,967
. Percent increase from previous year	21%	17%	16%	13%	N/A
Earnings per share (b)	$ 1.40	$ 1.22	$ 1.06	$ 0.92	$ 0.83
. Percent increase from previous year	15%	15%	15%	11%	N/A

(a) Financials have been restated to reflect the pooling-of-interests acquisition of ROI Systems, Inc. in November 1985.
(b) Per share data has been adjusted to reflect a two-for-one stock split on June 6, 1986.

- ADP management attributes the company's continued growth in revenue and earnings to the expansion of its client base, new product offerings, and acquisitions in new market areas.
  - Fiscal 1986 revenue growth reflected continued high transaction levels in brokerage services and collision estimating services. The acquisition of Bunker Ramo Information Systems in February 1986 also contributed to revenue growth.
- Systems development and programming expenditures were $45.8 million (4% of revenue) in fiscal 1986, $41.6 million (4% of revenue) in fiscal 1985, and $35.7 million (4% of revenue) in fiscal 1984.
- ADP management predicts revenue for fiscal 1987 will increase by nearly 15% and earnings per share growth will be close to 20%.

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- Revenue for the six months ending December 31, 1986 was $655.3 million, as compared with $561.4 million for the same period in 1985. Net income for the period was $52.7 million, compared to $43.2 million for the same period in 1985.

- Recent ADP acquisitions/divestitures include the following:

  - In June 1986 ADP disposed of its majority interest in Rechenzentrum Frankfurt KG, a German data processing operation.

  - In February 1986 ADP acquired Bunker Ramo Information Systems from Allied Signal for $60 million in cash plus additional contingent payments of not less than $17.5 million based on future events. After anticipated proceeds from the disposition of certain assets and expected tax benefits, the net cost to ADP will approximate $40 million.

    - Bunker Ramo Information Systems provides stock quotation services to over 25,000 users in the securities industry, and hardware and associated maintenance services.

    - In May 1986 ADP announced the sale of the Bunker Ramo U.S. banking operations (terminal sales and support services) to Ing. C. Olivetti & Co., S.p.A. for $17 million in cash.

    - Shortly after the acquisition, ADP sold Bunker Ramo's German and Swiss banking operations to Philips International B.V. of the Netherlands.

    - Bunker Ramo's stock quotation services business has been merged into ADP's Financial Services Group.

  - In November 1985 ADP acquired ROI Systems, Inc. for 425,028 shares of ADP common stock in a pooling-of-interests transaction.

    - ROI Systems provides accounting and recordkeeping software to manufacturers. The company, with fiscal 1985 revenue of approximately $1.5 million, now operates as the ADP Manufacturing Services Division.

  - In July 1985 ADP acquired the Brokerage Transaction Services Division (BTSI) of Control Data Corporation for an undisclosed amount of cash plus contingent payments based on the next year's business results.

    - BTSI, headquartered in New York, provides back office transaction processing and recordkeeping services. The company had annual revenue of approximately $11 million at the time of the acquisition.

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- The operations of BTSI have been merged into ADP's Financial Services Group.

- In June 1985 ADP acquired Automotive Information Systems for an undisclosed amount of cash and contingent payments based on future business results. AIS, now merged into ADP's Collision Estimating Services Division, provides insurance companies with a used car vehicle valuation service, called AutoTrak, for total loss claims.

- In February 1985 ADP acquired Commodity Communications Corporation (Canada), Ltd., a provider of real-time future quotations to over 100 Canadian companies. Its operations have been merged into ADP Comtrend, within the Financial Services Group.

- ADP's current organization structure is shown in the exhibit. The company is currently organized into six major groups as follows:

  - Employer Services provides payroll processing, payroll tax filing, job costing, labor distribution, unemployment compensation management, and personnel information services.

  - Accounting Services provides batch and interactive accounting processing services through three separate business units as follows:

    - Accounting Services provides generic accounts receivable, accounts payable, time analysis, and general ledger/financial reports.

    - Wholesale/Distributor Services provides order entry, invoicing, accounting, and inventory services, and other front-end back-office applications for small-to-medium sized wholesalers and distributors.

    - Manufacturing Services provides accounting, planning, production control, and distribution software for small-to-medium sized manufacturers.

  - The Financial Services Group includes the following businesses:

    - Brokerage Services provides "back-office" recordkeeping services.

    - Financial Information Services provides data base and stock quotation services to the investment/brokerage industry.

    - ADP Comtrend provides an on-line service for commodity, currency, and interest rate futures trading.

    - Banking and Thrift Services provides various accounting processing services to banks and savings and loan associations.

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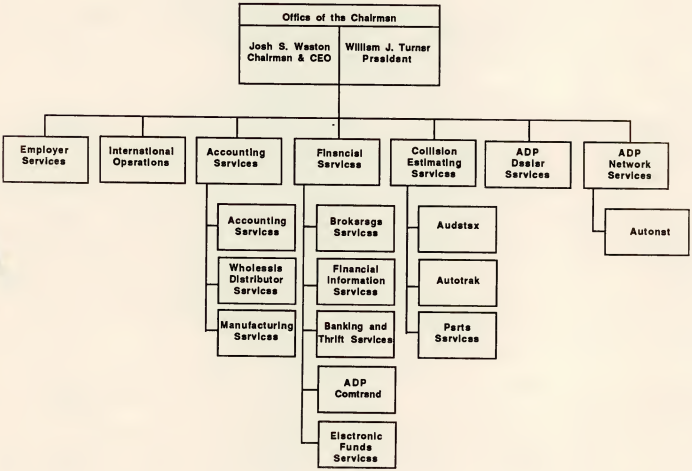
EXHIBIT

ADP ORGANIZATION CHART



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- Electronic Funds Services provides automated teller machine (ATM) services to the financial and retail industries.

- Collision Estimating Services provides claims estimating processing services to automobile insurers, manufacturers, and repairers.

- ADP Dealer Services provides accounting and specialized computing services to auto, truck, and farm equipment dealers.

- ADP Network Services provides remote computing and on-site distributed processing services and packet switched value-added public data network services.

KEY PRODUCTS AND SERVICES

- A three-year summary of ADP's source of revenue by major operating group, as estimated by INPUT follows ($ millions):

FISCAL YEAR / ITEM	6/86		6/85		6/84	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Employer Services	$ 537	45%	$ 455	44%	$381	43%
Accounting Services	114	9	111	11	100	11
Financial Services	310	26	265	26	219	25
Collision Estimating Services	45	4	25	2	20	2
Dealer Services	140	12	115	11	90	10
Network Services	58	4	60	6	80	9
Total	$ 1,204	100%	$ 1,031	100%	$890	100%

- Employer Services are provided to clients engaged in a wide variety of businesses. In addition to marketing its services directly, ADP has marketing relationships with many banks whereby ADP offers its services to clients and prospective clients of the banks. Employer services are offered from ADP's regional centers located throughout the U.S. ADP also has data processing centers in Western Europe, Brazil, and Canada.

  - Employer services include payroll processing and related tax filing services, personnel reporting systems, unemployment tax management, and specialized management reports to over 150,000 clients.

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- ADP's payroll services are its largest single form of service and are provided from 40 regional processing centers in the U.S. and from centers in London, Rotterdam, Campinas, San Paulo, Rio de Janeiro, Toronto, and Montreal.

- ADP's payroll services include automatic deposit, quarterly and annual social security and income tax withholding reports, W-2 withholding statements for employees, a complete record of payments for each pay period, and periodic employee historic earnings records. Also included are special statistical and audit reports for management, such as payroll and job cost distribution reports, welfare and pension fund reports, and payroll audit reports.

- Autopay I payroll service targets small clients with 8 to 19 employees.

- ADP's Autopay II payroll service focuses on companies with 25 to 500 employees.

- Autopay Plus, introduced in 1983, includes an integrated payroll and tax filing service for companies with fewer than 25 employees.

- The National Accounts Division sells payroll services to companies with over 500 employees. The division, with increased sales of 45% during fiscal 1986, now serves over 2,000 clients.

- Over the past 10 years ADP has developed joint payroll marketing relationships with over 800 commercial banks, many of which formerly did payroll processing for their customers.

- ADP's automated payroll tax impound and filing service processes and remits federal, state, and local payroll withholding taxes. This service is offered in conjunction with participating banks that act as depositories for the tax funds until remittance. By the end of fiscal 1986 ADP had over 50,000 clients for this service.

- An interactive personnel reporting system, operating in conjunction with the payroll data base, provides salary, benefits, and EEO compliance reports and various other information needs for personnel administration.

- Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates, and analyzes various financial options to the client.

- The Interactive Payroll and Personnel (IPP) service, is an on-line processing service targeted primarily to companies with more than 500

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employees and multiple locations. IPP experienced a 300% growth during fiscal 1986 and is currently used by over 200 clients covering 300,000 employees.

- Personnel and payroll data are entered on a terminal supplied by ADP or a microcomputer. The terminal is linked to a regional ADP computing center via Autonet.

- The IPP system provides automatic updates of personnel files adjusted to reflect payroll activity.

- The system provides a range of payroll-related services, including filing of federal, state, and local taxes, unemployment cost control, and various management reports, printed on-site.

- In addition to the IPP service described above, virtually all other Employer Services are now offered through the use of client-site microcomputers, as well as by traditional courier delivery. Over 4,000 payroll clients now use ADP's PC-Connection to communicate with the company's regional mainframe computers.

- ADP's principal accounting services are accounts receivable, accounts payable, and general ledger. These services are sold through batch, interactive, and on-site systems primarily to the services, manufacturing, and wholesaler/distributor industries throughout the U.S. and in Western Europe and Brazil.

  - ADP's accounts receivable services include the preparation of client statements, accounts receivable schedules, agings, and related managerial reports. The accounts payable services are designed to keep track of paid and open invoices, prepare checks to the client's vendors, and prepare other reports designed to control the accounts payable function. ADP's financial statement preparation services consist of providing balancing journals, periodic general ledger, profit and loss statements, and balance sheets for clients. ADP's time accounting services provide computerized accounting of time spent on a per-job and per-employee basis.

  - During fiscal 1986, ADP's accounting services segment was reorganized into three business lines as follows:

    - Accounting Services provides generic accounts receivable, accounts payable, time analysis, and general ledger/financial reports. Well over 15,000 businesses used ADP generic accounting services in 1986. This client base now has the option to use client-site PCs connected to ADP regional centers' mainframe systems.

    - Wholesale/Distributor Services provides real-time order entry, invoicing, accounting, and inventory services, and other front-

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and back-office applications for small-to-medium sized wholesalers and distributors. Nearly 1,000 wholesale/distribution clients, a 20% increase over 1985, now use ADP on-site systems. A specialized sales and service group has been established to work with these clients, whose annual sales typically range between $2 million and $100 million.

. Manufacturing Services provides accounting, planning, production control, and distribution services for small-to-medium sized manufacturers. As a result of the acquisition of ROI Systems, Inc., ADP offers Manage 2000, an integrated MRPII software product. More than 100 manufacturers currently use Manage 2000.

- Financial Services are provided through five operating units as follows:

  - Brokerage Services. The principal services offered by ADP's stock brokerage and related financial computer services are brokerage processing, cage management, stock loan accounting, on-line inquiry terminals, portfolio reporting, order matching, and on-line trading. ADP also provides data processing services to brokers and traders in commodity contracts, commodity futures, and options. These services are offered in the U.S. and Canada.

    . Brokerage back-office recordkeeping services revenue grew 25% to over 150 million in fiscal 1986.

  - Financial Information Services. ADP provides data base and quotation services for the investment and brokerage community by supplying quotations and other information to terminals located on brokers' desks.

    . Revenue from this segment reached an estimated $75-85 million, and includes results from Bunker Ramo from the date of its acquisition.

    . ADP now has over 55,000 traditional quotation terminals in worldwide use by more than 1,000 clients. In addition, there are over 7,000 new micro-based workstations in over 300 client sites. These terminals are connected to ADP's mainframes in Mt. Laurel (NJ) and Trumbull (CT).

    . ADP's micro-based stock quotation workstations, called FS-Plus (Convergent Technology-based) and FS-Partner (IBM PC-based), incorporate market data, office automation, and proprietary brokerage and management applications for the front office.

    . Major clients include Prudential-Bache, L. F. Rothschild, E. F. Hutton, Kidder, Peabody & Co., Dean Witter, and A. G. Edwards.

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- In January 1987 ADP announced it had entered into an agreement with Merrill Lynch, Pierce, Fenner & Smith Inc. to develop a customized quote service system for Merrill Lynch. Terms of the agreement were not disclosed. It is projected that ADP will begin delivery of the quote service to the first Merrill Lynch branch in approximately one year and complete system installations to all domestic branches two years after that.

- Futures Trading Services. ADP Comtrend provides predominantly on-line, real-time services for all active commodities, currencies, and interest rate futures trading.

  - ADP Comtrend's fiscal 1986 revenue is estimated at about $20 million.

  - Comtrend's Videcom® Financial Information Service provides quotations by telecommunications lines and satellite broadcast, and present the futures data through a terminal which graphically displays price and volume movements in each futures contract.

  - Comtrend provides its services to subscribers in the U.S., Europe, Canada, and Hong Kong.

- Electronic Funds Services (EFS). ADP provides automatic teller machine (ATM) services to banks, thrift institutions, credit unions, and other financial institutions throughout the U.S.

  - ADP operates an on-line computer switch to support both proprietary and shared ATM networks on a 24-hour-a-day, 7-day-a-week basis.

  - ADP also has its own interchange mechanism, known as The Exchange℠, which permits use of ATM access cards on a nationwide basis.

  - The division had its first full year of consistent profits in fiscal 1986. Volume increased 30% in 1986, to well over one million ATM transactions a week. Increased efficiency was gained from the consolidation of three processing centers into one. The EFS nationwide network now connects to over 8,000 ATM's and can accept over 30 million consumer cards.

  - Among new clients, EFS signed a major agreement with Bank of America and Southland Corporation to support ATM installations at 400 7-Eleven stores, with the prospect of supporting many more stores in the future.

- Banking Services and Thrift Services. ADP provides a range of services to banks and savings and loan associations from its regional centers and

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through remote item processing (RIP) centers. These services are provided either in an on-line real-time or batch processing mode.

- Revenue from this segment was an estimated $30-35 million in fiscal 1986. The division was solidly profitable in 1986.

- The computing services provided include accounting for demand deposits, savings, certificates of deposit, NOW accounts, installment loans, commercial loans, mortgage loans, general ledger, loan accounting, and on-line inquiry capability to a central information file.

- Additionally, the services provided to savings and loan associations and mortgage banking institutions include mortgage loan accounting and a set of remote management information products delivered via on-line microcomputer interface to ADP's host computers.

- ADP's Collision Estimating Services offers computerized services in the U.S. and Canada pertaining to the preparation of estimates of the cost to repair automobile damage and related claims management information.

  - During the past fiscal year, ADP Collision Estimating was reorganized into three lines of business as follows:

    - Audatex is the oldest and most prevalent of these services. It provides the on-line preparation of low cost collision repair estimates for auto insurers and repairers, using a proprietary data base that includes parts and labor cost data on 96% of all autos and trucks manufactured since 1970.

      - Nine of the top 10 auto insurers are ADP clients. The company currently prepares claim estimates for more than 17,000 users.

      - In 1986, Nationwide and Fireman's Fund became clients, and new multi-year agreements were signed with Liberty Mutual, United Services Automobile Association, American Family, and The Hartford.

    - Collision Estimating also provides insurance companies with a used car vehicle valuation service known as Autotrak, for total loss claims. Autotrak valuations are produced from a computerized data base of used car sales, and adjusted by statistical analysis programs. Autotrak was introduced as a line of business last year.

      - In the past year, the Autotrak service was extended from California and a few other western states to 23 states. It currently generates more than 150,000 valuations annually. This service will be nationwide by year end.

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- Parts Services grew over 35% during fiscal 1986. Through a parts information service called PAL, clients are provided price comparisons and availability status from an auto part data base that includes salvage parts, new nonbranded parts, OEM new parts, and reconditioned parts. By having information on all sources, users can quickly resolve claims using the most appropriate parts.

- The division is a major user of ADP's Autonet network for data communications between insurance company claim centers and ADP's data base of auto parts and repair-labor information.

- ADP Dealer Services provides batch, on-line, and on-site accounting and management information services to over 8,000 dealers and manufacturers in the automobile, truck, industrial equipment, farm equipment, and related industries throughout the U.S. and Canada.

  - Applications available include inventory control, general accounting control, lease management, parts invoicing, service merchandising, finance and insurance, repair order billing, accounts payable check writing, and word processing.

  - ADP's on-site system for franchised dealers is offered on a Microdata minicomputer. It can operate as a standalone system or be used on a shared basis.

  - ADP's Manufacturer-Dealer Communications Service uses an on-site computer to also provide communications between automotive dealers and the factory for ordering, warranty claims processing, retail sales and delivery reporting, and vehicle locating. These dealerships can also use the service for other processing functions such as financial reporting and inventory management.

  - For the past five years, ADP Dealer Services has consistently increased its revenues and profits as it expanded both its dealership business and communications-based applications services.

    - In 1986, more than 1,200 new on-site systems were installed at client dealerships.

    - During a two-month period in 1986, under an exclusive contract with Hyundai, ADP installed on-site, turnkey computing systems at over 140 dealers. ADP expects to install additional systems as more Hyundai dealers are brought on stream.

    - A new Subaru factory-dealer communications system was installed at over 500 dealers to provide more effective new car and parts availability data between the auto manufacturer and its dealers.

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- Jaguar also signed a contract for development and installation of a communications system to link its 200 U.S. dealers.

- ADP Network Services provides both general and specialized management-oriented on-line services, primarily to major corporations, large financial institutions, and government organizations in the U.S., Canada, and Western Europe.

  - Network Services, aided by cost reductions and the integration of general business and data services into a single organization in Ann Arbor, maintained good profitability in 1986, despite a decline in revenues.

  - Proprietary programs and data bases provide management information, data base management, statistical, industry and financial analysis and forecasting, treasury management, automated wire transfer, and project management. In addition, standard computer languages are available for use in conjunction with proprietary application packages to create customized applications for clients.

  - ADP Network Services also maintains ADP's Autonet packet-switched teleprocessing network supporting several thousand interactive terminals at client locations, all linked to ADP's central computing facility in Ann Arbor. Autonet's prime function is to aid other ADP divisions with more efficient data communications.

  - Treasury Management (CashExpress) is Network Services' leading industry-specific service. It permits banks throughout the world to provide corporate treasurers with instant access to current deposit and account information.

    - In June 1984 ADP announced the availability of the CashExpress Workstation, a low-cost, microcomputer-based cash management system designed to run on the IBM PC/XT. The system uses the MDBS III data base management system for rapid data access from ADP's mainframe computers, and includes the Lotus 1-2-3 spreadsheet software for development of forecasts, charts, and graphs in preformatted programs or user-customized formats.

    - Applications are available for MIS, deposit, and balance reporting; cash analysis; bank relationships management; funds transfer, and related services.

    - Currently, over 9,000 corporate clients obtain these services through more than 130 ADP sponsor banks.

  - ADP Network Services also offers the APECS/8000 project management turnkey system based on DEC MicroVAX II and AT&T 3B-series computers. APECS/8000 is also available on ADP's network.

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INDUSTRY MARKETS

- ADP's revenue is primarily derived from banking and thrift institutions, brokerage firms, corporate payroll and financial processing, manufacturers, accounting firms, insurance companies, and automotive dealers.

GEOGRAPHIC MARKETS

- Approximately 95% of ADP's revenue is derived from U.S. operations, with the remainder from foreign sources, including the United Kingdom, Western Europe, Canada, and Brazil.

COMPUTER HARDWARE

- ADP uses more than 100 mainframes, exclusive of minicomputers, in its various data centers.
  - ADP Network Services maintains its primary data center in Ann Arbor (MI). Equipment used to provide network services includes a large number of DEC System 10s and 20s and DEC VAXs.
  - Employer and Accounting Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 4300 systems and Magnuson mainframes.
  - Financial Services maintains a new data center in New York City using primarily Amdahl and IBM systems.
    - ADP Financial Information Services' data centers in Mt. Laurel (NJ) and Trumbull (CT) has primarily IBM and DEC VAX computers installed.
    - Banking and Thrift Services data centers are in Chicago, Atlanta, Cherry Hill (NJ), and Houston. Equipment in the centers consists primarily of IBM 4300s and Magnuson mainframes.
  - Dealer Services' primary data center, located in Schaumberg (IL) has Microdata computers installed.
  - ADP Collision Estimating Services uses the Network Services data center in Ann Arbor to provide services to its clients.

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FINANCIAL UPDATE TO PROFILE DATED MAY 1984*

AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Josh S. Weston, Chairman and CEO
William J. Turner, President
Public Corporation, NYSE
Total Employees: 18,500
Total Revenue, Fiscal Year End
6/30/85: $1,030,015,000

AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/85	6/84	6/83	6/82	6/81
Revenue	$ 1,030,015	$ 888,914	$ 752,825	$ 677,028	$ 569,204
. Percent increase from previous year	16%	18%	11%	19%	22%
Income before taxes and extraordinary item	$ 155,080	$ 133,450	$ 115,272	$ 105,670	$ 90,307
. Percent increase from previous year	16%	16%	9%	17%	18%
Net income	$ 87,850	$ 75,130	$ 64,521	$ 57,067	$ 49,500
. Percent increase from previous year	17%	16%	13%	15%	24%
Earnings per share	$ 2.47	$ 2.14	$ 1.86	$ 1.67	$ 1.56
. Percent increase from previous year	15%	15%	11%	7%	21%

- Revenue for the nine months ending March 31, 1986 reached $885.2 million, an increase of 16% over $763.7 million for the same period in fiscal 1985. Net income increased 22% from $61,672 for the nine months ending March 31, 1985 to $75,135 for the nine months ending March 31, 1986.

- In June 1985 ADP acquired Automotive Information Systems for an undisclosed amount of cash and contingent payments based on future business results. AIS, now merged into ADP's Collision Estimating Services Division,

*Replaces Financial Update of February 1985

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provides insurance companies with a used car vehicle valuation service called AutoTrak for total loss claims.

- In December 1985 ADP acquired ROI Systems, Inc. for an undisclosed number of shares of ADP common stock. ROI, now called ADP Manufacturing Services Division, provides accounting and recordkeeping software for manufacturers.

- In February 1986 ADP acquired Bunker Ramo Information Systems from Allied Signal for $60 million in cash plus additional contingent payments of not less than $17.5 million based on future events. After anticipated proceeds from the disposition of certain assets and expected tax benefits, the net cost to ADP will approximate $40 million. Bunker Ramo Information Systems provides network services and information systems to the banking and securities industries.

SOURCE OF REVENUE

- A three-year summary of ADP's source of revenue, as estimated by INPUT, follows:

AUTOMATIC DATA PROCESSING, INC.
THREE-YEAR REVENUE SOURCE SUMMARY
($ millions)

FISCAL YEAR / ITEM	6/85		6/84		6/83 (a)	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Commercial Services	$ 565	55%	$480	54%	$440	58%
Network Services	$ 60	6%	$ 80	9%	$ 76	10%
Collision Estimating Services	$ 25	2%	$ 20	2%	$ 14	2%
Brokerage Services	$ 215	21%	$179	20%	$110	15%
Banking Services	$ 50	5%	$ 40(b)	5%	$ 34	5%
Dealer Services	$ 115	11%	$ 90	10%	$ 79	10%
Total	$1,030	100%	$889	100%	$753	100%

(a) Restated estimates based on additional information received by INPUT in 1984.
(b) Does not include revenue from Pension Services Division which was sold during fiscal 1983.

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FINANCIAL UPDATE TO PROFILE DATED MAY 1984

AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Henry Taub, Chairman
Josh S. Weston, President and CEO
Public Corporation, NYSE
Total Employees: 17,500
Total Revenue, Fiscal Year End 6/30/84: $888,914,000

AUTOMATIC DATA PROCESSING, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	6/84	6/83	6/82	6/81	6/80
Revenue	$888,914	$752,825	$677,028	$569,204	$465,714
. Percent increase from previous year	18%	11%	19%	22%	24%
Income before taxes and extraordinary item	$133,450	$115,272	$105,670	$ 90,307	$ 76,276
. Percent increase from previous year	16%	9%	17%	18%	18%
Net income	$ 75,130	$ 64,521	$ 57,067	$ 49,500	$ 39,982
. Percent increase from previous year	16%	13%	15%	24%	16%
Earnings per share	$ 2.14	$ 1.86	$ 1.67	$ 1.56	$ 1.29
. Percent increase from previous year	15%	11%	7%	21%	18%

- Revenue for the six months ending December 31, 1984 was $490.2 million, a 16% increase over $420.8 million for the same period in 1983. Net income for the period rose 14% from $31.2 million to $35.5 million.

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SOURCE OF REVENUE

- INPUT estimates ADP's fiscal 1984 revenue was derived as follows:

	Revenue ($ millions)	Percent of Total
Commercial Services	$480	54%
Network Services	80	9
Collision Estimating Services	20	2
Brokerage Services	179	20
Banking Services (a)	40	5
Dealer Services	90	10
	$889	100%

(a) Does not include revenue from Pension Services Division which was sold during fiscal 1983.

- Based on additional information and segmented data shown above, INPUT has modified its estimate for ADP's fiscal 1983 source of revenue as follows:

	Revenue ($ millions)	Percent of Total
Commercial Services	$440	58%
Network Services	76	10
Collision Estimating Services	14	2
Brokerage Services	110	15
Banking Services	34	5
Dealer Services	79	10
	$753	100%

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AUTOMATIC DATA PROCESSING, INC.
One ADP Boulevard
Roseland, NJ 07068
(201) 994-5000

Henry Taub, Chairman
Josh S. Weston, President
Public Corporation, NYSE
Total Employees: 15,500
Total Revenue, Fiscal Year End
6/30/83: $752,825,000

THE COMPANY

- Automatic Data Processing, Inc. (ADP) was formed in 1949 as Automatic Payrolls Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961 ADP computerized its operations and went public.

- Since the early 1960s ADP has implemented an active acquisition program to diversify from its primary business of providing payroll services. Payroll and accounting services still provide the major share of ADP's revenue; however, significant gains have been made in remote computing services, banking, finance, and brokerage services, collision estimating services for the insurance industry, and services to automotive dealers. The company now provides information and processing services to more than 150,000 clients.

- ADP reported revenue of $752.8 million in fiscal 1983, an 11% increase over fiscal 1982 revenue of $677 million. Net income rose 13% to $64.5 million from $57.1 million the previous year. A five-year financial summary follows:

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ADP
FIVE-YEAR FINANCIAL SUMMARY (a)
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/83	6/82	6/81	6/80	6/79
Revenue	$752,825	$677,028	$569,204	$465,714	$375,813
. Percent increase from previous year	11%	19%	22%	24%	N/A
Income before taxes and extraordinary item	$ 115,272	$105,670,	$ 90,307	$ 76,276	$ 64,429
. Percent increase from previous year	9%	17%	18%	18%	N/A
Net income	$ 64,521	$ 57,067	$ 49,500	$ 39,982	$ 33,484
. Percent increase from previous year	13%	15%	24%	16%	N/A
Earnings per share	$ 1.86	$ 1.67	$ 1.56	$ 1.29	$ 1.09
. Percent increase from previous year	11%	7%	21%	18%	N/A

(a) Financials have been restated to reflect the pooling-of-interests acquisition of Computer Information Service, Inc. in June 1983 and an accounting correction in the Pension Services Division, which was sold during fiscal 1983.

- ADP management attributes the company's continued growth in revenue and earnings to the expansion of its client base through increased marketing penetration, new product offerings, and entering new markets.

  - Net income in fiscal 1983 was also positively affected by a reduced corporate income tax rate resulting from investment tax credits on new equipment, from a research and development tax credit, and from capital gains rates on the sale of the Pension Services Division.

- Systems development and programming expenditures for the development of new computing services and the improvement of existing services were $26.2 million (3% of revenue) in fiscal 1983, $23.3 million (3% of revenue) in fiscal 1982, and $18.5 million (3% of revenue) in fiscal 1981.

- ADP management predicts revenue and earnings for fiscal 1984 will increase over 15%. Quarterly results will be uneven, and the second half of the fiscal year will become stronger.

- Revenue for the nine months ending March 31, 1984 was $655.7 million, as compared with $555.9 million for the same period in 1983. Net income for the period was $53.3 million in 1984, as compared with $45.7 million for 1983.

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- ADP made five acquisitions during fiscal 1982 and one during fiscal 1983. Three acquisitions have been made to date in fiscal 1984.

  - In July 1981 Allied Financial Services, Inc. was acquired for an undisclosed amount of cash plus contingencies based on future growth. Allied, formerly owned by a consortium of banks, performs processing services for banks located in the southeastern U.S.

  - In September 1981 ADP acquired the payroll, accounts receivable, and general ledger processing business and related payroll tax filing services of Crocker National Bank for an undisclosed amount of cash and contingent payments. Services are provided to more than 2,000 clients throughout California.

  - The acquisition of National Healthcare Administrators, Inc. (NHA) of Walnut Creek (CA) was completed in October 1981. NHA, with approximately 35 employees, had provided health claim administration processing services to self-insured employers in California for about six years. The company was acquired for stock and contingent payments.

  - In November 1981 ADP acquired a 66% interest in Rechenzentrum Frankfurt KG (RZF) for an undisclosed amount of cash plus future performance-related payments. RZF performs general business processing services for over 400 users through operations in Frankfurt and Hamburg, West Germany. The company generated approximately $4 million in annual revenue at the time of the acquisition.

  - In April 1982 ADP acquired the Houston and San Antonio data processing operations of Computer Statistics, Inc. (CSI) for an undisclosed amount of cash. CSI provides payroll and accounting services.

  - In June 1983 Computer Information Service, Inc. (CIS) was acquired for 319,331 shares of ADP common stock. CIS provides transaction ("back office") processing services to commodities brokers and traders. For its fiscal year end February 1983 the company had revenue of approximately $11 million and earnings of about $600,000.

  - In August 1983 ADP completed the acquisition of GTE Telenet Information Services, the brokerage services subsidiary of GTE Telenet, for an initial purchase price of $10 million plus future contingency payments of no less than $13 million. The company, with 250 employees and annual revenue of about $35 million, provides data base and quotation services to over 400 customers using over 15,000 terminals and now operates as ADP Financial Information Services, Inc.

  - In September 1983 ADP acquired part of Computer Science Corporation's business services operation for an undisclosed amount of cash plus future payments based on the operation's performance. The portion acquired by ADP includes the processing of payroll and other accounting services for over 2,000 customers in U.S. metropolitan areas, generating annual revenue of about $7 million.

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- In September 1983 ADP acquired Easy Answer, a Chicago-based regional ATM firm with 100 ATM sites, for under $1 million in cash.

- In March 1984 ADP announced it had agreed to acquire the payroll services business of Security Pacific National Bank of Los Angeles for an undisclosed consideration.

  - Security Pacific generates revenue of approximately $10 million from approximately 4,000 clients throughout California.

  - Security Pacific will enter into a joint marketing relationship with ADP to offer ADP Employer Services to the bank's entire commercial customer base.

  - The transaction is expected to be completed in late 1984.

- ADP operations sold in recent years include the following:

  - In fiscal 1982 ADP sold at a small net gain its income tax processing service to CCH Computax, Inc. Terms of the sale were not disclosed.

  - Effective June 30, 1983, ADP sold the Pension Services Division to The Continental Corporation for $40 million of Continental preferred stock plus contingent additional payments based on future results.

  - In fiscal 1983 ADP sold a small international trade segment of the ADP Network Services Division.

- ADP was organized into five major groups in fiscal 1983 as follows:

  - Commercial Services provides payroll and accounting processing services.

  - Network Services provides remote computing and on-site distributed processing services, packet-switched value-added public data network services, and collision estimating services.

  - Brokerage Services provides remote computing services, data base, and quotation services to the investment/financial industry.

  - Banking Services provides accounting and electronic funds transfer (EFT) services to banks and thrift institutions, pay-by-phone services, and home banking.

  - Dealer Services provides accounting and specialized computing services to dealers and distributors of autos and other vehicles.

- Effective January 1984 certain realignments were made in ADP's organizational structure, as follows:

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- The Network Financial and Communications Service Group will be responsible for the operations of the former Network Services and Banking Services Groups, excluding collision estimating services.

- The Insurance Services Group will be responsible for the operations of ADP Collision Estimating Services and ADP Medical Benefits Services.

- The Commercial Services, Brokerage Services, and Dealer Services Groups' operations will remain relatively unchanged.

KEY PRODUCTS AND SERVICES

- INPUT estimates ADP's fiscal 1983 revenue as follows:

	Revenue ($ millions)	Percent of Total
Commercial Services	$388	52%
Network Services	121	16
Brokerage Services	87	11
Banking Services	46	6
Dealer Services	111	15
	$753	100%

- Commercial Services, provided to clients of all sizes across industries, is ADP's oldest and largest service organization and has consistently supplied 50% or more of the company's revenue base. Its fiscal 1983 revenue is estimated by INPUT at $388 million, an 11% increase over the 1982 revenue estimate of $350 million. Commercial Services' growth rate is primarily attributed to new services and new clients.

  - The Employer Services segment of Commercial Services provides payroll processing and related tax filing services, personnel reporting systems, unemployment tax management, and specialized management reports to over 100,000 clients.

    - ADP's payroll services are its largest single form of service and are provided from 37 regional processing centers in the U.S. and from nine centers in London, Rotterdam, Frankfurt, Hamburg, Sao Paulo, Rio de Janeiro, Toronto, and Montreal.

    - ADP's payroll services include automatic deposit, quarterly and annual social security and income tax withholding reports, W-2 withholding statements for employees, a complete record of payments for each pay period, and periodic employee historic earnings records. Also included are special statistical and audit reports for management, such as payroll and job cost distribution reports, welfare and pension fund reports, and payroll audit reports.

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- ADP's Autopay II payroll service focuses on companies with 20 to 1,000 employees. On June 30, 1983, ADP had over 80,000 clients of this service.

- Autopay I, a payroll service targeting small clients with 8 to 19 employees currently has over 13,000 clients.

- The National Accounts Division sells payroll services to companies with over 1,000 employees.

- Over the past 10 years ADP has developed joint payroll marketing relationships with over 800 commercial banks, many of which formerly did payroll processing for their customers.

- Autopay Plus, introduced in 1983 includes an integrated payroll and tax filing service for the small client.

- ADP's automated payroll tax impound and filing service processes and remits federal, state, and local payroll withholding taxes. This service is offered in conjunction with participating banks that act as depositories for the tax funds until remittance. By the end of fiscal 1983 ADP had over 15,000 clients for this service.

- A personnel reporting system, operating in conjunction with the payroll data base, provides salary, benefits, and EEO compliance reports and various other information needs for personnel administration.

- Unemployment compensation management services are also offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts, aids clients in appeals, reviews prior employment history, evaluates current tax rates, and analyzes various financial options to the client.

- In September 1983 ADP introduced the Interactive Payroll and Personnel (IPP) service, an on-line processing service targeted primarily to companies with more than 500 employees and multiple locations.

  - Personnel and payroll data are entered on a DEC VT 131 terminal supplied by ADP. The terminal is linked to a regional ADP computing center via Autonet.

  - The IPP system provides automatic updates of personnel files adjusted to reflect payroll activity.

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- The system provides a range of payroll-related services, including filing of federal, state, and local taxes, unemployment cost control, and various management reports, printed on site.

- The Accounting Services segment of Commercial Services provides order entry, invoicing, inventory control, accounts receivable, accounts payable, general ledger, management reports, and sales analysis to over 15,000 clients via batch, remote batch, interactive processing, and on-site microprocessing.

  - Interactive services revenue increased over 50% during fiscal 1983. These services, provided currently to over 2,000 clients, include on-line processing via a terminal or via an on-side, on-site computer.

    - On-site processing is available on Microdata Reality minicomputers. The minimum monthly price of the service, including some peripherals is $720.

    - In 1983 ADP introduced on-site processing via IBM, Apple, and Tandy microcomputers, permitting access to all basic accounting functions.

  - ADP also provides an interactive accounting service for manufacturers which provides bills of material, material requirement planning, and job costing.

  - ADP's minicomputer system is sold on Microdata Reality systems. The same applications that are offered on the on-line Microdata service are available on the standalone system.

- The Professional Services division provides financial statement preparation processing services to accountants, including balancing journals, periodic general ledgers, profit and loss statements, and balance sheets. ADP also provides time accounting services.

  - The division's tax processing services were sold to CCH Computax in fiscal 1982.

- ADP FASTRENTS is a batch processing service offered in the East. FASTRENTS provides computerized bookkeeping and financial information services to the property management industry. Clients include builders, developers, banks, property owners, and professional managers of rental units.

- Commercial Services expanded its payroll and accounting services offerings in fiscal 1984 with the acquisition of the portion of Computer Sciences Corporation's business services operation that provides these processing services to over 2,000 customers across the U.S.

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- INPUT estimates that ADP's Network Services Group contributed 16% ($121 million) to ADP's fiscal 1983 revenue.
  - ADP Network Services Division provides remote processing services primarily to major corporations, large financial institutions, and governments.
    - Primary areas of product specialization on the network include project management; planning, investment, and economic services; financial and cash management; and data base services. A profile of applications offered is presented in the exhibit.
    - ADP Network Services are currently available to 300 cities in the Western Hemisphere and are used by over 6,000 clients. Network Services maintains 36 sales offices in the U.S. and 23 in overseas locations. It employs approximately 1,500 people.
    - ADP's distributed processing service, ADP/Onsite, announced in March 1978, has approximately 100 customers in the U.S. and Europe. INPUT estimates ADP's fiscal 1983 revenue from Onsite was over $20 million, an increase of 41% over fiscal 1982. ADP is currently averaging about $18,000 per month per installation for the system.
      - ADP/Onsite combines a DEC System 10 with program development software and application products for local processing. In addition, Onsite operates as a part of the ADP international network. Current developments are in place to introduce an IBM-PC connection to the Onsite product and a new mainframe capability, Onsite 3600.
      - Base price of a system, including maintenance and support, starts at $5,000. Applications software licenses for an additional $500 to $1,500 per month, depending on the product. All systems are leased for a minimum period of two years.
      - In February 1981 the Onsite service became available on a partial-system basis running on computers installed at ADP technical centers. Services are offered in increments of 25%. Each increment provides resources for up to five simultaneous users; 25% of the processing power of a full Onsite system; access to ADP Network's languages, utilities, and applications software; and user support benefits. Available under one-year lease agreements, the partial-system service is priced on a fixed-fee basis starting at $6,500 per month.
    - In December 1981 ADP announced the availability of the DATA-SITE service, a remote data entry station for use offline with

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EXHIBIT

ADP NETWORK SERVICES PROFILE

APPLICATION AREA/PRODUCT NAME
• OPERATING ENVIRONMENT – DEC SYSTEM 10, ADP COMMAND LANGUAGE (CL) – DEC VAX SYSTEMS • DISTRIBUTED PROCESSING – ADP/ONSITE – DATAPATH – DATASITE – APECS/8000 – INNSITE – CASHEXPRESS WORK-STATION • PROGRAMMING LANGUAGES SUPPORTED – BASIC – COBOL – FORTRAN – MACRO 10 • DATA MANAGEMENT SOFTWARE – IPL – SYSTEM 1022 – INGRES • DATA BASES – BANCALL – BANCOMPARE – BANCORP – BUSINESS CONDITIONS DIGEST – COMPUSTAT – CONFERENCE BOARD – CONSUMER PRICE INDEXES – DISCLOSURE II – EXSTAT – FX (FOREIGN EXCHANGE RATES) – FASTOCK – FLOW OF FUNDS – INTERNATIONAL FINANCIAL STATISTICS – M & A – MONEY MARKETS – PRODUCER PRICE INDEXES – SITE II – TOWNSEND-GREENSPAN SHORT-TERM AND LONG-TERM ECONOMIC FORECASTS – U.K. MACRO ECONOMIC – U.S. MACRO ECONOMIC

APPLICATION AREA/PRODUCT NAME
• TREASURY MANAGEMENT – CASHEXPRESS WORKSTATION – DEPOSIT REPORTING – MANAGEMENT INFORMATION REPORTING – BALANCE AND INTRA-DAY BALANCE REPORTING – AUTOMATED WIRE TRANSFER – MULTILATERAL NETTING • PLANNING, INVESTMENT AND ECONOMIC ANALYSIS TOOLS – ALCAR MODELS (STRATEGIC FINANCIAL PLANNING AND MERGER AND ACQUISITION ANALYSIS) – COMPETITIVE ANALYSIS – CUFFS (CORPORATE PLANNING AND MODELING) – DATAPATH (DATA DOWNLOADING TO PC) – ECONALYST (ECONOMETRIC FORECASTS AND MODELS) – IFPS (INTERACTIVE FINANCIAL PLANNING SYSTEM) – INVESTMENT SERVICES – TSAM II (TIME SERIES ANALYSIS AND MODELING LANGUAGE) • OTHER APPLICATIONS – XCALABER (CROSS-TABULATION) – CYPHERGRAPH (GRAPHICS) – CYPHERTEXT (TEXT PROCESSING) – SPSS (STATISTICAL ANALYSIS)

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ADP/Onsite and network timesharing services. The service provides hardware and software and facilitates customized screen formatting, local error checking, and improved response time. Configurations available include from one to four CRT terminals. Cost of the service begins at $525 per month on a one-year lease basis.

- ADP introduced the Innsite hotel management distributed processing system in England in 1980. Innsite uses RAIR Black Box equipment and financial management software for hotels in any size category. Access to ADP's network provides duplicate backup information storage and acts as a centralized management information source for multi-hotel chains.

- A fast-growing segment within Network Services is its cash management system, which currently handles a volume of about $4 billion per day for over 5,000 corporate clients. More than 110 banks offer the service in conjunction with ADP.

  - In January 1984 ADP announced the availability of the CashExpress Workstation, a low-cost, microcomputer-based cash management system designed to run on the IBM PC/XT. The system uses the MDBS III data base management system for rapid data access from ADP's mainframe computers, and includes the Lotus 1-2-3 spreadsheet software for development of forecasts, charts, and graphs in preformatted programs or user-customized formats. Initial micro processing functions include Balance Management, Bank Relationship Management, Cash Analysis, and Data Management.

- Services in the area of project management are being marketed specifically to pharmaceutical research and development departments, design engineering and construction companies, oil and gas companies, and high technology institutions dealing with government aerospace work.

  - In July 1981 ADP announced APECS 2000T.M., a fixed-price version of the ADP Project Evaluation and Control System (APECS). Users receive sufficient processing capacity, on-line storage, and network connect time to report on multiple project networks, each having up to 2,000 activities. Fixed-price fees range from $3,900 to $6,500 per month, and average $4,900 per month for a one-year contract.

  - In September 1981 ADP announced the availability of the COSTRAKT.M. cost performance reporting system for project managers on its network. The system provides comparisons of actual and budgeted costs for work sched-

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uled and performed, data base management capabilities for customized inquiry and reporting, and management graphics.

- In August 1983 ADP announced the development of APECS/8000, a project management system based on the UNIX operating system and built on the relational data base concept, designed to operate on micros, minis, and mainframes. It is an outgrowth of the APECS system that has been in use worldwide since 1976 in industries such as high technology, defense, utilities, communications, oil and gas, automotive, banking and construction, and pharmaceuticals. APECS/8000 enables the project manager to perform every function needed in the control and planning of a project, including the traditional CPM needs, plus earned value analysis, cost and schedule integration, resource allocation, drawings tracking, document tracking, equipment tracking, materials procurement custom applications, and other data management and reporting facilities. The VAX version was released in March 1984.

- In October 1981 ADP announced the availability of the ALCAR models, strategic financial planning products based on discounted cash flow analysis. The six models currently available enable planners, investors, and business analysts to perform acquisition, industry, and competitive analysis; determine shareholder value, maximum annual sales growth rate, and equity valuation; and assess the economic value of business units. Access to the models is priced at $5,000 per year.

  - In May 1983 ADP introduced DATAPATH℠, a data-access software package designed for use with the IBM PC and the Lotus 1-2-3 spreadsheet, graphics, and financial reporting system. DATAPATH enables PC users to gain access to over 35 ADP financial, economic, and investment data bases. The user can then screen the data bases, select the information needed, and download it to the PC. From there, DATAPATH allows the user to view the data on a 1-2-3 spreadsheet without the need for local formatting or editing.

- The ADP Autonet Division is responsible for the operations of the Autonet international public packet-switching network. Autonet provides data communications services to ADP processing clients and in 1982 began providing value-added public networking services.

  - The Autonet network is available 24 hours a day, seven days a week and supports over 8,700 access ports, linking more than 160 host computers with 230 intelligent communications nodes.

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The company believes Autonet's monthly availability rate of better than 99.7% is the highest in the industry. The rating is a measure of average network uptime across all nodes during prime time operating hours.

- In the U.S. Autonet provides direct toll-free access from more than 250 locations. Extended dial-in access is available from numerous other locations through interconnections with other public networks.

- Gateways with major international record carriers provide communications with more than 50 countries.

- Autonet supports ADP's AutoMail computer-based message system.

- ADP's Collision Estimating Service offers an on-line service for estimating the cost of automobile repairs in the U.S. and Canada. Collision Estimating became profitable during fiscal 1982 and continued to grow rapidly during fiscal 1983. INPUT estimates this service contributed $21 million to fiscal 1983 revenue and $15 million to fiscal 1982 revenue.

  - The division operates a data base containing part numbers and costs on over 2,000 different domestic and foreign cars, representing over 90% of all 1970 and later cars in use in the U.S.

  - ADP's Autonet network is used for the majority of its data communications. Microprocessors are currently being installed at client sites in place of dumb terminals.

  - During 1983 the State Farm Mutual Auto Insurance Company became a client of the service. During 1982 ADP completed the conversion of Allstate Insurance Company to the service.

  - In 1982 ADP introduced the Salvage Locator Service in California and expanded into Michigan during 1983. The remote processing service allows insurance firms to obtain information on the availability and price of acceptable used auto parts for repairs.

- INPUT estimates Brokerage Services contributed 11% ($87 million) to ADP's fiscal 1983 revenue, a 13% increase over 1982 revenue estimates of $77 million. This group now provides front office and back office services in securities, commodities, and future contracts to over 1,000 brokers, traders, and financial institutions using over 20,000 terminals in the U.S., Canada, and Europe.

  - ADP supplies back office securities processing and management services for over 100 brokerage firms. It also provides services in related

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areas such as portfolio reporting, cage management, on-line customer inquiry, on-line order matching, and on-line trading services for government and other debt securities.

- ADP Comtrend provides the Videcom® Financial Information Service, an on-line service for commodity, currency, and interest rate futures trading. Comtrend grew over 40% during fiscal 1983.

  - Services are provided to over 400 brokerage firms, banks, savings and loans, corporations, and investment organizations in the U.S. and London.

  - The Videcom service provides data on futures, foreign currencies, stock index futures, London markets, metals, agricultural futures, and options. Historical data on contracts traded since 1968 is also available.

  - The Online Broker Terminal provides a graph of price and volume movements in each futures contract. At the moment a trade occurs, the display is updated. Traders can program their terminals to monitor up to 200 contracts with a choice of eight different kinds of information, including bid and ask prices, volume, and time of trade.

  - In April 1983 ADP Comtrend introduced the Intelligent Comtrend System, a multifunction 16-bit graphics workstation that holds up to one megabyte of memory and provides on-line access to the Videcom service. The price for one workstation is $2,000 per month and $400 per month for each additional workstation.

- The Brokerage Services group expanded its offerings in 1983 with two acquisitions as follows:

  - In June 1983 ADP acquired Computer Information Service, Inc. (CIS), a major provider of recordkeeping services to over 200 brokers and traders in commodity contracts, commodity futures, options, and securities.

  - In August 1983 ADP acquired GTE Telenet Information Services, Inc. Now known as ADP Financial Information Services (FIS), this division provides data base and quotation services to brokerage firms.

    - ADP Financial System One (FS1) provides on-line market data, data base services, and communications capabilities via an intelligent desktop terminal.

      - Clients can access real time market quotations on over 38,000 securities, futures, and options.

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- Some of the data base services available are: Dow Jones News Retrieval; Commodity News Service; Standard & Poor's Marketscope; Time and Sales; Liquidity Data Bank; Spectrum Institutional Holdings; and Monchik-Weber Option Monitor Service.

- The COMMLINK communications service permits authorized users to access a brokerage firm's own host computer, ADP Brokerage Services Divisions in New York and Philadelphia, ADP Computer Information Service, Pershing, BTSI, and other service bureaus and third-party data bases.

- In 1983 the division introduced ADP Financial System PLUS (FS PLUS), an automated branch office/quotation system for brokerage and investment firms. FS PLUS will use Convergent Technologies hardware and software developed by Interactive Financial Services, Inc.

  - A Megaframe minicomputer is installed at each branch office.

  - NGEN desktop workstations for each broker permit management and access to client information, office automation capabilities (word processing, spreadsheet, and graphics), and on-line access to all quote and financial information available on ADP FSI.

- In August 1983 ADP was awarded a contract by Prudential-Bache Securities to install the ADP Financial System PLUS at its branch locations.

  - ADP will supply 215 Convergent Technologies Megaframe computers and about 3,600 NGEN terminals to 215 Prudential-Bache offices in the U.S. These offices currently have GTE Telenet office systems installed.

  - ADP estimates the hardware portion of the contract at $20 million.

  - Installation of the first systems in New York, New Jersey, and Georgia began in early 1984.

- ADP is developing software for an IBM PC-based workstation to be used in conjunction with a Series/1 (functioning as a site controller) for front offices of brokerage houses. Availability is scheduled for the summer of 1984. ADP signed a value-added-reseller agreement with IBM for the IBM PC in April 1984.

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- ADP management anticipates that the Brokerage Services group will become the company's second largest business segment after Commercial Services.

- INPUT estimates Banking Services contributed 6% ($46 million) to ADP's fiscal 1983 revenue, a 4% decrease from fiscal 1982 estimates of $48 million.

  - The Banking and Thrift divisions provide batch and on-line processing services for over 300 commercial banks savings and loan associations and mortgage banking institutions from regional processing centers in Chicago, Cincinnati, Clifton (NJ), Houston, and Philadelphia.

    - Bank services include accounting for demand deposits, savings, certificates of deposit, NOW accounts, installment loans, commercial loans, mortgage loans, general ledger, loan accounting, and on-line inquiry capability to a central information file.

    - Thrift services provided to savings and loan associations and mortgage banking institutions include savings account processing, NOW account processing, mortgage loan processing, certificate of deposit accounting, and general ledger statements.

    - ADP also has several remote input processing (RIP) centers with a combination of minicomputers, telephone lines, and check processing equipment to reduce the physical movement of checks and speed payments.

    - ADP management states that because of the consolidation of smaller banking/thrift institutions into larger ones and the resulting loss of revenue, its Banking and Thrift divisions did not grow in fiscal 1983.

  - ADP's Electronic Financial Services Division, formed in May 1981, provides automatic teller machine (ATM) services to banks, thrift institutions, and credit unions nationwide. The division operates an on-line computer switch supporting both proprietary and shared ATM networks on a 24-hour-a-day, 7-day-a-week basis, on either a regional or national level.

    - The ATM management software, which runs on Tandem NonStop minicomputers, is compatible with all major ATM systems, including Docutel, Diebold, NCR, IBM, and Burroughs. Features included flexible card formats and security arrangements.

    - ADP participates in The Exchange℠, a national shared ATM network owned by 44 financial institutions that permits the use of ATM access cards from locations around the country. Under the partnership agreement, ADP pays a percentage of new sales in return for exclusive logo identifications, transaction software, location leases, and member-bank contracts. ADP client

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banks, thrifts, and credit unions will have access to marketing programs developed by The Exchange.

- This network was expanded by ADP to over 400 live ATMs in 20 states during fiscal 1983.

- The service provides point-of-sale and debit card capabilities, transaction authorizations, and on-line updating for cardholders' information.

- ADP provides around-the-clock, on-line processing support and communications monitoring of the ATMs.

- ADP invested heavily in 1982 and 1983 in the shared network. Though sales are increasing, operating costs were higher than anticipated and the company now estimates this business will reach a break-even month in fiscal 1985 rather than the original estimate of fiscal 1984.

- The division also provides telephone bill paying services to banks and thrift institutions (formerly called ADP Telephone Computing Services, Inc.). This service, a form of electronic funds transfer, permits the customer to authorize the payment of a bill by voice or a telephone touchtone pad.

- During 1983 ADP undertook the management of Home Banking Interchange SM . Together with a group of 18 banks in the U.S. and Canada, ADP is evaluating the possibility of developing opportunities in home banking and personal financial services for both consumers and businesses.

  - A 2,000-home, $7.5 million videotext test, with user terminals supplied by American Bell, will begin in 1984. ADP is developing the software to process transactions.

  - Bank participants will provide banking services. Videotex America will supply non-banking services such as news, sports, weather, and shopping information.

- ADP's Pension Services Division, sold in June 1983, contributed approximately $12 million to fiscal 1983 revenue. This division provided banks with corporate and individual IRA and Keogh retirement plan accounting services.

- INPUT estimates APD's Dealer Services Group contributed $111 million to ADP's fiscal 1983 revenue, an increase of 19% over the 1982 estimate of $93 million.

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- Dealer Services provides batch, on-line, and on-site accounting and management information services to over 6,000 new car dealers and distributors of trucks, industrial, construction, and farm equipment throughout the U.S., Puerto Rico, Canada, Brazil, and parts of Europe.

  - Applications available include inventory control, general accounting control, lease management, parts invoicing, service merchandising, finance and insurance, repair order billing, accounts payable check writing, payroll, and word processing.

  - ADP's on-site system for franchised dealers is offered on a Microdata minicomputer. It can operate as a standalone system or be used on a shared basis. Over 1,000 systems have been installed.

  - In 1983 Dealer Services introduced the Micro 1000, a microprocessor-based system developed and assembled by the group. There are over 500 systems installed.

  - ADP's Manufacturer-Dealer Communications Service combines a DEC intelligent terminal to provide communications between automotive dealers and the factory for ordering, warranty claims processing, retail sales and delivery reporting, and vehicle locating. These dealerships can also use the service for other processing functions such as financial reporting and inventory management.

    - When sold under this arrangement, the factory's processor is used as the host machine. Over 3,000 factory/dealer terminals are installed at Chevrolet, Pontiac, Oldsmobile, Nissan, and other dealers.

    - During fiscal 1983 ADP signed an agreement with International Harvester (IH) to provide the communications network service linking 1,000 dealers with IH's Chicago headquarters. This contract is expected to ultimately add over $10 million annually in Dealer Services' revenue.

- ADP Benefits Services provides employee medical benefits administration and claims processing for insured, self-funded, and partially self-funded employers.

  - ADP's claims administration includes tracking of deductible contributions, claims histories, and payments.

INDUSTRY MARKETS

- ADP's revenue is primarily derived from banking and thrift institutions, brokerage firms, corporate payroll and financial processing, manufacturers, accounting firms, insurance companies, and automotive dealers.

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GEOGRAPHIC MARKETS

- Approximately 92% of ADP's revenue is derived from U.S. operations and 8% from foreign sources, including the United Kingdom, Western Europe, Canada, and Brazil.

COMPUTER HARDWARE

- ADP uses more than 100 mainframes, exclusive of minicomputers, in its various data centers.
  - ADP Network Services maintains data centers in Ann Arbor (MI), Waltham (MA), and London. Equipment used to provide network services includes a large number of DEC System 10s and DEC VAXs.
  - Commercial Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 4300 systems and Magnuson mainframes.
  - Brokerage Services maintains a new data center in New York City using Amdahl and IBM systems. ADP Financial Information Services' data center in Mt. Laurel (NJ) has IBM and DEC VAX computers.
  - Banking Services data centers are in Philadelphia, Chicago, Atlanta, Fremont (OH), Charlotte (NC), and Kansas City. Equipment in the centers consists of IBM 370s, 4300s, and Magnuson mainframes.
    - Thrift Services data centers are in Clifton, Cincinnati, Houston, Dallas, and New Orleans, and primarily use IBM equipment.

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COMPANY HIGHLIGHT

AUTOMATIC DATA PROCESSING, INC.
405 Route 3
Clifton, NJ 07015
(201) 365-7300

Frank R. Lautenberg, Chairman
Josh S. Weston, President
Public Corporation, NYSE
Total Employees: 14,300
Total Revenue, Fiscal Year
End 6/30/81: $558,443,000

THE COMPANY

- Automatic Data Processing, Inc. (ADP) was formed in 1949 as Automatic Payrolls Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961, ADP computerized its operations and went public.

- ADP implemented an active acquisition program in the early 1960s to diversify from its primary business of providing payroll services. In the process, approximately 75 companies or business ventures were acquired.

- Payroll and accounting services still provide the major share of ADP's revenue. However, significant gains have been made in remote computing services, finance and banking, and services to automotive dealers. The company now provides information and processing services to more than 100,000 clients.

- ADP reported revenue of $558.4 million in fiscal 1981, a 23% increase over fiscal 1980 revenue of $455.4 million. Net income rose 24% to $49.3 million from $39.6 million the previous year. A five-year financial summary follows:

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ADP
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/81	6/80	6/79	6/78	6/77
Revenue (a)	$558,443	$455,422	$368,836	$296,092	$241,300
. Percent increase from previous year	23%	23%	25%	23%	N/A
Income before taxes and extraordinary item	$89,854	$75,513	$63,821	$53,883	$ 45,838
. Percent increase from previous year	19%	18%	18%	18%	N/A
Net income (b)	$49,306	$39,639	$33,193	$27,477	$ 23,196
. Percent increase from previous year	24%	19%	21%	18%	N/A
Earnings per share	$ 1.57	$ 1.29	$ 1.09	$ 0.91	$ 0.78
. Percent increase from previous year	22%	18%	20%	17%	N/A

(a) - Financial data has been restated to reflect a two-for-one stock split paid May 21, 1981, to comply with the Financial Accounting Standards Board's requirement for accounting on the accrual basis for compensated employee absences, and to include the pre-tax earnings of ADP's limited purpose bank and trust company as revenue.

(b) - Net income includes an extraordinary gain of $1,942,000, the final portion of a tax benefit resulting from a net operating loss carry-forward of a company acquired in 1973.

- The post-split offering of 2 million shares of ADP common stock in May 1981 generated $56 million in proceeds. Proceeds will be used for facility expansions, for the building of new corporate headquarters and a new computer center for the stock brokerage community, and for acquisition purposes.

- Management projects a 15% growth rate for earnings per share before extraordinary items in fiscal 1982, with revenue and net income increasing at a slightly higher rate.

- Revenue and net income for the six months ended December 31, 1981 were $317,406,000 and $24,788,000 respectively, as compared with revenue of $262,426,000 and net income of $20,037,000 for the similar period in 1980.

- ADP acquired seven companies in fiscal 1981, and four acquisitions have been made to date in fiscal 1982.

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- Total Systems, Inc., a subsidiary of Kaneb Services Inc., was acquired in July 1980. Total Systems, headquartered in Houston, provides processing services for the savings and loan and mortgage banking industries and had annual revenue exceeding $5 million. ADP purchased the company for $2.5 million plus future contingency payments based on profitability.

- In July 1980, Comtrend Inc. was acquired for more than $4 million in cash plus contingencies based on future growth. Comtrend provides computerized instantaneous graphic information on all active commodities, currencies, and interest rate futures trading. Comtrend had approximately $3.1 million in annual revenue and had been operating at a loss at the time of acquisition.

- Business Systems Research (BSR), based in Salem (NH), was purchased in August 1980. BSR supplies computerized data bases and accounting systems for customs house brokers, freight forwarders, and others involved in international trade. BSR, purchased for an undisclosed amount of cash and future payments based on growth, generated approximately $3.5 million in annual revenue.

- In April 1981, Data Corporation of America (DCA) was purchased for $5 million in cash plus future payments contingent on performance. DCA, with revenue of $4.5 million, is based in Winter Haven (FL) and provides processing services to accounting firms located nationwide.

- Telephone Computing Service Inc. of Seattle was acquired in April 1981 for $1.7 million in stock plus performance-related payments. The company provides telephone bill-paying services to the banking and thrift industries, and has approximately $2 million in annual revenue.

- In May 1981, ADP purchased the banking applications, payroll, and accounting services performed at NLT Computer Services Corporation's Kansas City data center for $2.2 million in cash and future contingencies.

- The East Coast portion of Comshare's tax processing business was acquired in May 1981 for an undisclosed amount of cash and payments based on performance.

- In July 1981, Allied Financial Services, Inc. was acquired for an undisclosed amount of cash plus contingencies based on future growth. Allied, formerly owned by a consortium of banks, performs processing services for banks located in the southeastern U.S.

- In September 1981, ADP acquired the payroll, accounts receivable, and general ledger processing business and related payroll tax filing services of Crocker National Bank for an undisclosed amount of cash and contingent payments. Services are provided to more than 2,000 clients throughout California.

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- The acquisition of National Healthcare Administrators, Inc. (NHA), of Walnut Creek (CA), was completed in October 1981. NHA, with approximately 35 employees, has provided health claim administration processing services to self-insured employers in California for about six years. The company was acquired for stock and contingent payments.

- In November 1981, ADP acquired a 66% interest in Rechenzentrum Frankfurt KG (RZF) for an undisclosed amount of cash plus future performance-related payments. RZF performs general business processing services for over 400 users through operations in Frankfurt and Hamburg, West Germany. The company generates approximately $4 million in annual revenue.

- ADP operations sold in recent years include the following:

  - In fiscal 1980, ADP sold its Nursing Home Services, Autonet, and the Honeywell-based banking services in Tulsa and Denver. In June 1980, the Board of Directors voted to sell, and subsequently sold, its Graphics Arts subsidiary. The combined annual revenue of the operations sold was approximately $10 million.

  - In July 1981, ADP's Network Services division sold its insurance product and customer base, and a brokerage management package to a New Jersey-based firm.

- ADP was organized into four major groups in fiscal 1981:

  - Commercial Services provides payroll, accounting, and tax processing services.

  - ADP Network Services provides remote computing services.

  - Financial Services provides banking, thrift, brokerage, and electronic financial services.

  - Special Industries includes services for automotive dealers, pension services, health claim administration, ADP Collision Estimating Service, and FASTRENTS.

- In late January 1982, ADP announced the formation of a new organizational alignment, the Network and Bank Services Group. Included in the group are ADP's international time-sharing, data base and bank services, including accounts processing, electronic funds transfer, automatic teller machines, and telephone bill paying services. In addition, the new group includes pension and profit plan administration services.

  - ADP's FASTRENTS service will be integrated with Commercial Services. Brokerage Services is presently reporting as an independent sector, while organizational changes are in progress.

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KEY PRODUCTS AND SERVICES

- INPUT estimates ADP's fiscal 1981 revenue as follows:

	Percent of Total	Revenue Value ($ millions)
Commercial Services	54%	$ 301
Network Services	15	84
Financial Services	13	73
Special Industries	18	100
	100%	$ 558

- Commercial Services, ADP's oldest and largest service organization, has consistently supplied 50% or more of the company's revenue base. Its fiscal 1981 revenue is estimated by INPUT at $301 million, a 22% increase over the 1980 revenue estimate of $246 million. Commercial Services' growth rate is primarily attributed to increases in its payroll services.

  - Principal services provided by Commercial Services are payroll, general ledger, accounts receivable, accounts payable, financial preparation, tax return preparation, and unemployment insurance cost control.

  - ADP's provision of payroll services to over 80,000 companies is estimated to supply one-third of ADP's total revenue ($186 million). ADP processes approximately 250 million paychecks per year, or more than one out of every 20 paychecks issued to American workers.

    . Payroll services are provided from 36 data centers in the U.S. and from about nine centers in London, Rotterdam, Paris, Sao Paulo, Toronto, Montreal, Frankfurt, and Hamburg.

    . ADP's payroll services include automatic deposit, preparation of special statistical and audit reports for management (such as payroll job cost distribution reports), welfare and pension fund reports, and a payroll audit report.

    . Although ADP's payroll services have traditionally been purchased by small- to medium-sized companies, a growing number of multilocation firms have been added. To meet the needs of large employers, ADP has established a special national accounts group.

    . ADP's Payroll Tax Filing Service, offered in conjunction with several banks, makes all necessary filings for federal, state, and local taxes and deals directly with government units for filings and inquiries. Tax payments are made for the employer through its account at a local bank.

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- As part of its payroll data base service, ADP offers a personnel reporting service which provides reports on hiring and termination lists, union seniority, benefits administration, employee location and address, Equal Opportunity Employment Act compliance data, personnel roster, and wage and salary status. Average cost of the system is less than $5 per employee, per year.

- In fiscal 1981, ADP introduced Autopay I, a payroll service for firms employing 20 or fewer persons. Services include all standard payroll options at a fixed fee of $10.50 per week for up to 20 checks. Autopay I is currently being used by approximately 7,000 clients.

- A complete range of accounting and management information services, such as accounts payable, accounts receivable, and general ledger, are offered to small- and medium-sized business firms on a batch service basis.

- In addition to batch services, the Commercial Division offers interactive processing services from eight regional offices for its accounting applications, and markets a minicomputer system.

  - Interactive accounting services are offered on Microdata Reality minicomputers and provide general accounting applications and some specialty applications for the wholesale distribution industry. The minimum monthly price of the service, including some peripherals, is $720. Applications available include accounts payable/receivable, inventory control, purchase order, order entry, distribution bill of materials, and sales analysis.

    - Interactive accounting services offered on HP 3000s were discontinued in fiscal 1981 due to management's decision to standardize services on Reality-based systems.

  - ADP's minicomputer system is sold on Microdata Reality systems. An entry-level system, including the processor and peripherals, rents for $1,590 per month. The same applications that are offered on the on-line Microdata service are available on the standalone system.

- Commercial Services also markets an interactive processing service for manufacturers. The service is offered in New York at the present time. Applications provided include bill of materials, material requirements planning, and job costing. All applications interface with ADP's accounting products.

- Unemployment insurance cost control services are offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The

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service handles claims processing, monitors state changes against the employer's accounts, and aids clients in the appeals process.

- Commercial Services expanded its payroll and accounting services offerings in fiscal 1982 with two acquisitions:

  . The payroll, accounts receivable, general ledger, and related payroll tax filing services of Crocker National Bank were acquired in September 1981. Crocker will continue to market services with ADP to its over 2,000 banking clients in California.

  . The November 1981 acquisition of the majority of Rechenzentrum Frankfurt KG's general business processing services expanded ADP services in West Germany. Applications include payroll, accounts receivable, general ledger, and order entry.

- In fiscal 1981, ADP formed the Professional Services Division, which provides time analysis, accounting, financial statement, and tax return preparation services to several thousand accounting firms. Existing services were reorganized and combined with recent acquisitions to create the new division.

  . Computerized preparation of individual, corporate, and partnership tax returns was initiated with the acquisition of Programmed Tax Systems in fiscal 1980 and expanded with the acquisition of the Eastern portion of Comshare's tax processing services in late fiscal 1981.

    - Programmed Tax Systems is the largest preparer of computerized tax returns in the New York Metropolitan area, serving the tax form preparation needs of over 2,000 accounting firms in ten states.

    - Tax processing services acquired from Comshare include services similar to those offered by Programmed Tax Systems. Clients are located in the northeastern U.S.

  . Data Corporation of America, acquired in April 1981, provides interactive remote processing services to over 1,200 accounting firms nationwide. Information is entered via a local intelligent terminal which checks data for accuracy. Complete financial reports may then be printed at the client's site.

- INPUT estimates that ADP's Network Service organization contributed 15% ($84 million) of ADP's fiscal 1981 revenue and grew 23% over 1980 revenue of $68 million. Primary areas of product specialization on the network include project management; planning, investment, and economic services; financial and cash management; and international trade. A profile of applications offered is presented in the exhibit.

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EXHIBIT

ADP NETWORK SERVICES PROFILE

APPLICATION AREA/PRODUCT NAME

- OPERATING ENVIRONMENT
  - DEC SYSTEM 10, ADP COMMAND LANGUAGE (CL)
- DISTRIBUTED PROCESSING
  - ADP/ONSITE
  - DATASITE
  - INNSITE
- PROGRAMMING LANGUAGES SUPPORTED
  - BASIC
  - COBOL
  - FORTRAN
  - MACRO 10
- DATA MANAGEMENT SOFTWARE
  - IPL
  - SYSTEM 1022
- DATA BASES AVAILABLE
  - TOWNSEND-GREENSPAN SHORT-TERM AND LONG-TERM FORECASTS
  - U.S. MACRO ECONOMIC
  - U.K. MACRO ECONOMIC
  - INTERNATIONAL FINANCIAL STATISTICS
  - MONEY MARKETS
  - FLOW OF FUNDS
  - FOREIGN EXCHANGE RATES
  - BUSINESS CONDITIONS DIGEST
  - CONFERENCE BOARD
  - PRODUCERS PRICE INDEX
  - CONSUMER PRICE INDEX
  - COMPUSTAT
  - EXSTAT
  - FASTOCK
  - BANCOMPARE
  - BANCALL
  - SITE II
- FINANCIAL MANAGEMENT
  - FML (FINANCIAL MODELING)
  - FINANCIAL CONSOLIDATION SYSTEMS
  - COMPUTERIZED BUDGETING
  - FIXED ASSETS MANAGEMENT
  - CAS (CUSTOM ACCOUNTING SOLUTIONS)

APPLICATION AREA/PRODUCT NAME

- CASH MANAGEMENT
  - DEPOSIT REPORTING
  - MANAGEMENT INFORMATION REPORTING
  - BALANCE REPORTING
  - AUTOMATED WIRE TRANSFER
- PLANNING, INVESTMENT, AND ECONOMIC
  - FINALYST (INVESTMENT ANALYSIS)
  - MATRIX (MERGERS AND ACQUISITIONS)
  - DEALS (MERGERS AND ACQUISITIONS)
  - FUTURE (BALANCE SHEETS)
  - ALCAR (STRATEGIC FINANCIAL PLANNING)
  - ALLOCATE (RESOURCE AND CAPITAL ALLOCATION)
  - CUFFS (CORPORATE PLANNING AND MODELING)
  - INVESTMENT SERVICES
  - COMPETITIVE ANALYSIS
  - TSAM (TIME ANALYSIS SERIES)
  - ECONALYST (ECONOMETRIC FORECASTS AND MODELS)
- PROJECT MANAGEMENT
  - APECS (PROJECT EVALUATION AND CONTROL)
  - COSTRAK (PROJECT COST PERFORMANCE REPORTING)
- INTERNATIONAL TRADE SERVICES
  - GENERALIZED ACCOUNTING PACKAGES (A/P, A/R, G/L)
  - TRADE DOCUMENTATION SERVICE
- OTHER APPLICATIONS
  - XCALABER (CROSS TABULATION)
  - CYPHERGRAPH (GRAPHICS)
  - CYPHERTEXT (TEXT PROCESSING)
  - SPSS (STATISTICAL ANALYSIS)

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- ADP Network Services are currently available to 300 cities in the Western Hemisphere and are used by over 2,000 clients. Network Services maintains 39 sales offices in the U.S. and 24 in overseas locations. It employs approximately 1,200 people.

- ADP's distributed processing service, ADP/Onsite, announced in March 1978, has approximately 100 customers in the U.S. and Europe. INPUT estimates ADP's fiscal 1981 revenue from Onsite was $12 million, an increase of 41% over fiscal 1980 revenue of $8.5 million. ADP is currently averaging about $18,000 per month per installation for the system.

  - ADP/Onsite combines a DEC 2020 with program development software and application products for local processing. In addition, Onsite operates as a part of the ADP international network.

  - Base price of a system, including maintenance and support, starts at $10,000. Applications software licenses for an additional $500 to $1,500 per month, depending on the product. All systems are leased for a minimum period of two years.

  - In February 1981, the Onsite service became available on a partial-system basis running on computers installed at ADP technical centers. Services are offered in increments of 25%. Each increment provides resources for up to five simultaneous users; 25% of the processing power of a full Onsite system; access to ADP Network's languages, utilities, and applications software; and user support benefits. Available under one-year lease agreements, the partial-system service is priced on a fixed-fee basis starting at $6,500 per month.

- In December 1981, ADP announced the availability of the DATASITE service, a remote data entry station for use offline with ADP/Onsite and network timesharing services. The service provides hardware and software and facilitates customized screen formatting, local error checking, and improved response time. Configurations available include from one to four CRT terminals. Cost of the service begins at $525 per month on a one-year lease basis.

- ADP introduced the Innsite hotel management distributed processing system in England in 1980. Innsite uses RAIR Black Box equipment and financial management software for hotels in any size category. Access to ADP's network provides duplicate backup information storage and acts as a centralized management information source for multi-hotel chains.

- Business Systems Research (BSR), a supplier of computerized tariff data bases and accounting and documentation systems to freight forwarders and customs house brokers, has been integrated into ADP

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Network Services. International trading services provided by BSR include production of all standard export and U.S. customs documentation, automatic billing, and complete accounting.

- A fast-growing segment within Network Services is its cash management system, which currently handles a deposit volume of about $3 billion per day for over 1,500 corporate clients. More than 75 banks offer the service in conjunction with ADP.

- New services in the area of project management are being marketed specifically to pharmaceutical research and development departments, design engineering and construction companies, oil and gas companies, and high technology institutions dealing with government aerospace work.

  - In July 1981, ADP announced APECS 2000T.M., a fixed-price version of the ADP Project Evaluation and Control System (APECS). Users receive sufficient processing capacity, on-line storage, and network connect time to report on multiple project networks, each having up to 2,000 activities. Fixed-price fees range from $3,900 to $6,500 per month, and average $4,900 per month for a one-year contract.

  - In September 1981, ADP announced the availability of the COSTRAKT.M. cost performance reporting system for project managers on its network. The system provides comparisons of actual and budgeted costs for work scheduled and performed, data base management capabilities for customized inquiry and reporting, and management graphics.

- In October 1981, ADP announced the availability of the ALCAR models, strategic financial planning products based on discounted cash flow analysis. The six models currently available enable planners, investors, and business analysts to perform acquisition, industry, and competitive analysis; determine shareholder value, maximum annual sales growth rate, and equity valuation; and assess the economic value of business units. Access to the models is priced at $5,000 per year.

- INPUT estimates Financial Services contributed 13% ($73 million) of ADP's fiscal 1981 revenue, a 40% to 55% increase over 1980 revenue estimates of $47 to $52 million. Financial Services, with more than 1,500 clients, has been the focus of much of ADP's recent acquisition activity.

  - The Brokerage Services Division supplies back office securities processing and management reporting services for over 90 brokerage firms. It also provides services in many related areas such as portfolio reporting, cage management, securities order entry, and on-line customer inquiry.

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- In fiscal 1981, Brokerage Services modified its software for use outside the U.S. Features have been added to allow accounting in multiple foreign currencies and to handle customer reporting in other languages. The first use of these new features was at a Canadian brokerage firm in mid-1980. ADP signed on Dominion Securities-Ames, one of Canada's largest brokerage firms, for the service in the Fall of 1981.

- In September 1981, ADP signed an agreement with the Bank of America to provide brokerage processing services to the bank's trust department. It is estimated that these services will generate over $1 million a year in revenue for ADP.

- New service developments in fiscal 1981 include on-line access for portfolio management clients, a stock loan product for accounting involved in lending stocks for short sales, and a government bond trading system with complete accounting and settlement capabilities.

- Comtrend, acquired in fiscal 1981, provides an on-line service for commodity, currency, and interest rate futures trading using a specially designed intelligent video terminal.

  - The Online Broker Terminal provides a graph of price and volume movements in each futures contract. At the moment a trade occurs, the display is updated. Traders can program their terminals to monitor up to 200 contracts with a choice of eight different kinds of information, including bid and ask prices, volume, and time of trade. Comtrend has over 650 terminals installed at client locations.

  - Trading information on a future's contract is presently available for the two most recent years. Comtrend is in the process of expanding data capacity to 20 years.

- The Banking Services Division, with over 500 clients, provides mainly batch processing services to commercial banks from six data centers in Philadelphia, Chicago, Atlanta, Fremont (OH), Charlotte (NC), and Kansas City.

  - ADP's national banking service provides all information processing for checking, savings, mortgages, commercial loans, and money market activities at small- and medium-sized banks. Specific services provided include:

    - Central Information File: demand deposit, time deposit, commercial loans, personal loans, and general ledger.

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- Teleport: for bank and pension fund investment departments for managing portfolios.

- Teletrust: an on-line personal trust accounting service oriented toward the smaller bank trust department.

- Remote Item Processing (RIP): a combination of minicomputers, telephone lines, and check processing equipment that reduces the physical movement of checks from place to place and speeds payments.

. In May 1981, Banking Services broadened its services in the Midwest with the acquisition of NLT Computer Services' Kansas City data center and related banking applications.

. The division further expanded its services in the Southeast with the July 1981 acquisition of Allied Financial Services, Inc., based in Charlotte (NC). Allied performs processing services for approximately 50 banks in North and South Carolina.

- The Thrift Services Division provides computing services for savings and loan associations and mortgage banking institutions located primarily in the Midwest, East, and South.

. ADP's national thrift services offering uses an intelligent terminal and provides complete computing services for share loans, NOW accounts, savings accounts, mortgage and construction loans, certificate of deposit accounting, and general ledger statements.

. Total Systems, acquired in July 1980, provides thrift institution services through three data centers located in Texas and Louisiana, and a remote processing center in Georgia.

- ADP's Electronic Financial Services Division was formed in May 1981 for the provision of automatic teller machine (ATM) services to banking and thrift institutions nationwide. The division operates an on-line computer switch supporting both proprietary and shared ATM networks on a 24-hour-a-day, 7-day-a-week basis, on either a regional or national level.

. Rights to the software required to operate the switch were acquired by ADP in June 1981 from Applied Communications, Inc., a systems house based in Omaha (NE). The ATM management software, which runs on Tandem NonStop minicomputers, is compatible with all major ATM systems, including Docutel, Diebold, NCR, IBM, and Burroughs. Features included flexible card formats and security arrangements.

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- ADP entered into a partnership with The Exchange in June 1981 for participation in a national shared ATM network. Prior to the agreement, ADP offered only proprietary ATM services.

  - The Exchange, headquartered in Bellevue (WA), is owned by 44 financial institutions and operates a shared ATM network in Oregon, Washington, Idaho, and British Columbia.

  - Under the agreement, ADP will pay The Exchange a percentage of new sales in return for exclusive logo identifications, transaction software, location leases, and member-bank contracts. ADP client banks, thrifts, and credit unions will have access to marketing programs developed by The Exchange.

- ADP acquired Telephone Computing Services Inc. (TCS), based in Seattle, in April 1981. TCS markets its Pay-by-Phone telephone bill-paying services wholesale to banking, thrift, and other financial institutions, who offer them retail to their customers. TCS services 90 clients nationwide from its Seattle data center.

  - Prior to its acquisition of TCS, ADP provided telephone bill-paying services for more than 30 Midwestern clients.

- INPUT estimates ADP's Special Industries segment contributed $100 million to total revenue in fiscal 1981, increasing 11% over the 1980 revenue estimate of $90 million. Special Industries consist of the Dealer Services Division, ADP Collision Estimating Services, Pension Services, and FASTRENTS.

  - Dealer Services provides complete accounting and management information services to franchised new car dealers and to a variety of truck, farm, and industrial equipment dealers. Services are delivered through a variety of methods ranging from traditional batch services, shared processing systems installed in regional offices, on-site systems and on-line distributed systems using intelligent terminals. Despite an economic downturn in the automobile industry, Dealer Services achieved higher revenue and generated profits in fiscal 1981.

    - ADP's on-site system for automotive dealers is offered on a Microdata minicomputer. It can operate as a standalone system or be used on a shared basis. Applications are integrated and include: accounting, inventory, repair management, service merchandising, financing and insurance, leasing, payroll, and word processing. Over 500 systems have been installed.

    - ADP's Dealer Communication Service (DCS) combines a DEC intelligent terminal to provide communications between automotive dealers and the factory for ordering, warranty services, and claims processing. Factory dealerships can then use DCS for

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other processing functions such as financial reporting and inventory management. When sold under this arrangement, the factory's processor is used as the host machine. Over 3,000 factory/dealer terminals are installed at Chevrolet, Pontiac, Oldsmobile, and other dealers.

- ADP's Collision Estimating Service, formerly the Audatex division of Itel Corporation, offers an on-line service for estimating the cost of automobile repairs in the U.S. and Canada. Collision Estimating operated at a loss in fiscal 1981, but is expected to contribute to profits during fiscal 1982.

  - The division operates a data base containing part numbers and costs on over 2,000 different domestic and foreign cars, representing over 85% of all 1970 and later cars in use in the U.S. ADP Network Services Division provides network and computing resources for delivery of the system.

  - The system is used by insurance companies, auto repair shops, independent insurance adjustors, and large fleet owners to improve manual methods of estimating repair costs.

  - Five of the ten largest automobile insurers are under contract to use the system.

  - In February 1981, Allstate Insurance Company signed a contract providing for the installation of ADP's collision estimating system at all 250 of its claims locations.

- The Pension Services Division provides batch accounting and reporting services for qualified individual (IRA) and corporate (Keogh) retirement plans. Approximately 25,000 retirement plans are administered for small businesses and individuals under Internal Revenue Service-approved master plans. The division grew at almost twice the corporate rate in fiscal 1981.

  - Pension Services is headquartered in San Francisco and has offices in Chicago, Houston, and New York City.

  - As a service provided in conjunction with the International Central Bank and Trust, ADP acts as a depository for pension funds invested in cash. All pensions are self-directed by trustees independent from ADP.

  - ADP acquired National Healthcare Administrators, Inc. (NHA) in October 1981. NHA, based in Walnut Creek (CA), provides employee medical benefits administration and claims processing services to approximately 200 self-insured employers in California.

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- ADP FASTRENTS is a batch processing service offered in the East. FASTRENTS provides computerized bookkeeping and financial information services to the property management industry. Clients include builders, developers, banks, property owners, and professional managers of rental units.

INDUSTRY MARKETS

- ADP's revenue is primarily derived from banking and thrift institutions, brokerage firms, corporate payroll and financial processing, manufacturers, accounting firms, insurance companies, and automotive dealers.

GEOGRAPHIC MARKETS

- Approximately 91% of ADP's revenue is derived from U.S. operations and 9% from foreign sources, including the United Kingdom, Western Europe, Canada, and Brazil.

COMPUTER HARDWARE

- ADP uses more than 100 mainframes, exclusive of minicomputers, in its various data centers.

  - ADP Network Services maintains data centers in Ann Arbor (MI), Waltham (MA), and London. Equipment used to provide network services includes a large number of DEC System 10s.

  - Commercial Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 360/370 systems and Magnuson mainframes.

  - Brokerage Services maintains a data center in New York using Amdahl V6 and V7 systems. A new $22 million computer center is currently under construction in New York City.

  - Banking Services data centers are in Philadelphia, Chicago, Atlanta, Fremont (OH), Charlotte (NC), and Kansas City. Equipment in the centers consists of IBM 370s and Magnuson Mainframes.

  - Thrift Services data centers are in Clifton, Cincinnati, Houston, Dallas, and New Orleans, and primarily use IBM equipment.

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AUTOMATIC DATA PROCESSING, INC.
405 Route 3
Clifton, NJ 07015
(201) 472-1000

Frank R. Lautenberg, Chairman
Josh S. Weston, President
Public Corporation, NYSE
Total Employees: 12,500
Total Revenues, Fiscal Year End
6/30/80: $454,934,000

THE COMPANY

- Automatic Data Processing Inc. (ADP) was formed in 1949 as Automatic Payrolls Inc. Its name was changed to Automatic Data Processing in 1960. From 1949 to 1961, its payroll services were performed on unit record equipment. In 1961, ADP computerized its operations and went public. ADP implemented an active acquisition program in the early 1960s to diversify from its primary business of providing payroll services. In the process, approximately 75 companies or business ventures were acquired. Payroll and accounting services still provide the major share of ADP's revenues. However, significant gains have been made in remote computing services, finance and banking, and services to automotive dealers.

- ADP reported revenues of $454.9 million in FY 1980, an increase of 23% over FY 1979 revenues of $368.8 million. Income before and after taxes and the earnings per share increased 18-19% from the previous year.

ADP
FIVE-YEAR FINANCIAL SUMMARY
($ Thousands, Except Per Share Data)
(FYE 6/30)

ITEM / FISCAL YEAR	1980	1979 (a)	1978 (a)	1977 (a)	1976 (a)
Revenues	$454,934	$368,836	$296,092	$241,300	$194,585
. Percent increase from previous year	23%	25%	23%	24%	-
Income before taxes and extraordinary item	$ 76,128	$ 64,435	$ 54,401	$ 46,188	$ 37,930
. Percent increase from previous year	18%	18%	18%	22%	-
Net income	$ 39,963 (b)	$ 33,512	$ 27,740	$ 23,373	$ 19,040
. Percent increase from previous year	19%	21%	19%	23%	-
Primary earnings per share	$ 2.60	$ 2.21	$ 1.84	$ 1.57	$ 1.29
. Percent increase from previous year	18%	20%	19%	22%	-

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(a) Financial results for FY 1976-1979 have been restated for the acquisition of Programmed Tax Systems Inc., in a pooling-of-interests transaction, and for the discontinuance of the graphic arts operations.

(b) Includes an extraordinary gain of $1,714,000 resulting from a tax benefit credit. Net income without the tax credit would have been $38,249,000.

- For three months ended September 30, 1980, ADP reported revenues of $125,660,000, up 24% from last year. INPUT estimates ADP's FY 1981 revenues will be approximately $550 million.

- ADP acquired four companies in FY 1980, and three acquisitions have been made so far in FY 1981.

  - Programmed Tax Systems Inc. (PTS) in Garden City (NY) was acquired in January 1980 for 130,000 shares of common stock. PTS provides income tax processing services for individual, corporate and partnership returns. PTS had revenues of approximately $3.2 million and pre-tax earnings of $600,000 prior to the acquisition.

  - In February 1980, ADP purchased certain payroll and accounting service operations performed at eight data centers owned by Statistical Tabulating Corporation. The operations had annual revenues of about $7.2 million and were purchased for $1.5 million in cash and promissory notes of $2 million to be paid over a ten-year period. The acquisition ended a four-year legal dispute between the two firms.

  - Acquisition of Itel's Audatex Division was completed in a purchase transaction for approximately $15 million in cash in April 1980. Audatex had annualized revenues of about $4.5 million at the time of acquisition and operated at a substantial loss.

  - In May 1980, ADP acquired the correspondent bank processing business of Philadelphia National Bank, which served about 80 banks. The acquisition was reported as a purchase transaction for an estimated value of $5 million.

Accrue $1.0 M See Prod. AP 1981

  - Total Systems, Inc., a subsidiary of Kaneb Services Inc., was acquired in July 1980. Total Systems is headquartered in Houston and provides processing services for the savings and loan and mortgage banking industries. Total Systems' annual revenues exceed $5 million. ADP purchased the company for $2.5 million plus future contingency payments based on profitability.

  - In July 1980, Comtrend Inc. was acquired for more than $4 million in cash plus contingencies based on future growth. Comtrend provides computerized instantaneous graphic information on all active commodities, currencies and interest rate futures trading. Comtrend has annual revenues of approximately $3.1 million and has been operating at a loss.

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- ADP is organized into four major groups:

  - Commercial Services provides payroll, accounting and tax processing services.

  - ADP Network Services provides remote computing services.

  - Financial Services provides banking, thrift and brokerage services.

  - Special Industries includes services for automotive dealers, pension services, ADP Collision Estimating Service and FASTRENTS.

KEY PRODUCTS AND SERVICES

- INPUT estimates ADP's FY 1980 revenues as follows:

	Percent of Total	Revenue Value ($ millions)
Commercial Services	54%	$ 246
Network Services	15	68
Financial Services	10	47
Special Industries	20	90
Graphics Arts	1	4
	100%	$ 455

- Commercial Services, ADP's oldest and largest service organization, has consistently supplied 50% or more of the company's revenue base. Its FY 1980 revenues are estimated by INPUT at $246 million, a 27% increase over the 1979 revenue estimate of $193 million. ADP's 27% growth rate is primarily attributed to increases in its payroll services. Two acquisitions, Programmed Tax Systems and a portion of the accounting business of Statistical Tabulating, did not contribute materially to FY 1980 growth.

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- Principle services provided by Commercial Services are payroll, accounts receivable, accounts payable, financial statement preparation, tax return preparation and unemployment insurance cost control.

- ADP's provision of payroll services to over 70,000 companies is estimated to supply one-third of ADP's total revenues ($150 million). More than one out of every 20 payroll checks issued to American workers is processed by ADP.

  - Payroll services are provided from 36 data centers in the U.S. and from about nine centers in London, Rotterdam, Paris, Sao Paulo, Toronto, Montreal and Vancouver.

  - ADP's payroll services include automatic deposit, preparation of special statistical and audit reports for management (such as payroll job cost distribution reports), welfare and pension fund reports and a payroll audit report.

  - Although ADP's payroll services have traditionally been purchased by small- to medium-sized companies, a growing number of multilocation firms have been added. To meet the needs of large employers, ADP has established a special national accounts group.

  - In FY 1980, a Payroll Tax Filing Service was offered in conjunction with several banks. With this service, ADP makes all necessary filings for federal, state and local taxes and deals directly with government units for filings and inquiries. Tax payments are made for the employer through its account at a local bank.

  - As part of its payroll data base service, ADP introduced a personnel reporting service in 1980. The new service provides reports on hiring and termination lists, union seniority, employee location and address, Equal Opportunity Employment Act compliance data, personnel roster and wage and salary status. Average cost of the system is $3 per employee, per year.

- A complete range of accounting and management information services, such as accounts payable, accounts receivable and general ledger, are offered to small- and medium-sized business firms on a batch service basis.

- In addition to batch services, the Commercial Division offers interactive processing services from eight regional offices for its accounting applications, and markets a minicomputer system.

  - Interactive accounting services are offered on Microdata Realtys and HP 3000s.

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- The Microdata service offers general accounting applications and some specialty applications for the wholesale distribution industry. The minimum monthly price of the service, including some peripherals, is $720. Applications available include accounts payable/receivable, inventory control, purchase order, order entry, distribution bill of materials and sales analysis.

- The HP 3000 service has recently been introduced and is available in a limited number of geographic locations. Applications available include accounts receivable, invoicing, inventory control, order entry and sales analysis. Minimum price of the service, including peripherals, is $745 per month.

. ADP's minicomputer system is sold on Microdata Realty systems. An entry-level system, including the processor and peripherals, rents for $1,590 per month. The same applications that are offered on the on-line Microdata service are available on the standalone system.

. ADP is developing a new, low-cost accounting product that will be offered on a small business computer within the next year.

- In FY 1980, Commercial Services also began to market an interactive processing service for manufacturers. The service is offered in New York at the present time. Applications provided include bill of materials, material requirements planning and job costing. All applications interface with ADP's accounting products.

- Programmed Tax Systems is the largest preparer of computerized tax returns in the New York Metropolitan area, serving the tax form preparation needs of over 2,000 accounting firms in ten states. Individual, corporate and partnership income tax forms are prepared.

- Unemployment insurance cost control services are offered in conjunction with ADP's payroll services and are designed to aid in the management and reduction of unemployment insurance costs. The service handles claims processing, monitors state changes against the employer's accounts and aids clients in the appeals process.

• ADP's Network Service organization is the outgrowth of four major acquisitions completed several years ago: Cyphernetics, First Data Corporation, Time Sharing, Ltd., and Information Sciences (Portland, OR). The combined revenues of these companies at the time of acquisition were approximately $30 million. INPUT estimates Network Services revenues at $68 million in FY 1980, a growth rate of 17% over FY 1979.

- ADP Network Services are currently available to 300 cities in the Western Hemisphere and are used by over 2,000 clients. Network

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Services maintains 45 sales offices in the U.S. and 25 in overseas locations. It employs approximately 1,100 people.

- Leading products used on the network are IPL (a proprietary DBMS), cash management services, financial data bases, econometric models, project management and financial modeling tools. A profile of applications offered is presented in Exhibit A.

- Approximately 65% of usage on the network is from interactive services and 35% is remote batch, on-site services and cash management services.

- ADP's distributed processing service, ADP/Onsite, was announced in March 1978. From July 1978 through November 1979, 27 systems were installed. From December 1979 to November 1980, an additional 23 systems were sold. INPUT estimates ADP's FY 1980 revenues from Onsite were $8.5 million, up 183% from an estimated $3 million in FY 1979. ADP is currently averaging about $18,000 per month per installation for the system.

  - ADP/Onsite combines a DEC 2020 with program development software and application products for local processing. In addition, Onsite operates as a part of the ADP international network.

  - Base price of a system, including maintenance and support, starts at $10,000. Applications software licenses for an additional $500 to $1,500 per month, depending on the product. All systems are leased for a minimum period of two years.

  - Sales of Onsite have been to a combination of existing clients on the network and to new customers. In FY 1980, a few systems were installed in the United Kingdom and in Europe.

- Business Systems Research (BSR) has been integrated into ADP Network Services. BSR is a supplier of computerized tariff data bases and accounting and documentation systems to freight forwarders and customs house brokers. Currently offered on a DEC PDP/11 minicomputer, BSR's applications are being converted to operate on the network. Services provided by BSR include:

  - Production of all standard U.S. customs documentation.

  - Production of all standard export documentation.

  - Automatic billing.

  - Complete accounting, including accounts receivable, accounts payable and general ledger.

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EXHIBIT A

ADP NETWORK SERVICES PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
• OPERATING ENVIRONMENT – DEC SYSTEM 10, ADP COMMAND LANGUAGE (CL) • DISTRIBUTED PROCESSING – ADP/ONSITE • PROGRAMMING LANGUAGES SUPPORTED – BASIC – COBOL – FORTRAN – MACRO 10 • DATA MANAGEMENT SOFTWARE – IPL – SYSTEM 1022 • DATA BASES AVAILABLE – TOWNSEND-GREENSPAN SHORT-TERM AND LONG-TERM FORECASTS – U.S. MACRO ECONOMIC – U.K. MACRO ECONOMIC – INTERNATIONAL FINANCIAL STATISTICS – MONEY MARKETS – FLOW OF FUNDS – FOREIGN EXCHANGE RATES – BUSINESS CONDITIONS DIGEST – CONFERENCE BOARD – PRODUCERS PRICE INDEX – CONSUMER PRICE INDEX – COMPUSTAT – EXSTAT – FASTOCK – BANCOMPARE – BANCALL – SITE II	• FINANCIAL APPLICATIONS – FML (FINANCIAL MODELING) – FINANCIAL CONSOLIDATION SYSTEMS – COMPUTERIZED BUDGETING • CASH MANAGEMENT – DEPOSIT REPORTING – BALANCE REPORTING – AUTOMATED WIRE TRANSFER • PLANNING TOOLS – FINALYST (INVESTMENT ANALYSIS) – MATRIX (MERGERS AND ACQUISITIONS) – DEALS (MERGERS AND ACQUISITIONS) – FUTURE (BALANCE SHEETS) • BUSINESS ANALYSIS TOOLS – TSAM (TIME ANALYSIS SERIES) – ECONALYST (ECONOMETRIC FORECASTS AND MODELS) • PROJECT MANAGEMENT – APECS (PROJECT EVALUATION AND CONTROL) • OTHER APPLICATIONS – XCALABER (CROSS TABULATION) – CYPHERGRAPH (GRAPHICS) – CYPHERTEXT (TEXT PROCESSING) – SPSS (STATISTICAL ANALYSIS)

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- A growing segment within Network Services is its cash management system, which currently handles a deposit volume of about $2 billion per day for over 1,100 corporate clients. More than 45 banks offer the service in conjunction with ADP.

- INPUT estimates Financial Services contributed 10% ($47 million) of ADP's FY 1980 revenue and grew 27% over 1979 revenues of $37 million. Growth was achieved through a combination of sales of existing services, the development of new services and acquisition.

  - The Brokerage Services Division supplies back office securities processing and management reporting services for over 85 brokerage firms. It also provides services in many related areas such as portfolio reporting, cage management, securities order entry and on-line customer inquiry.

    - In 1980, Brokerage Services modified its software for use outside the U.S. Features have been added to allow accounting in multiple currencies such as Swiss francs, French francs, British pounds and Japanese yen and to handle customer reporting in other languages. The first use of these new features was at a Canadian brokerage firm in mid-1980. ADP views Canada as a major market opportunity for the new service.

    - Comtrend, Inc., acquired in July 1980, is now a part of Financial Services. Comtrend provides an on-line, real-time information service for commodity currency and interest rate futures trading using a specially designed intelligent video terminal.

      - The terminal provides a graph of price and volume movements in each futures contract. At the moment a trade occurs, the display is updated. Traders can program their terminals to monitor up to 200 contracts with a choice of eight different kinds of information, including bid and ask prices, volume and time of trade. Comtrend has over 500 terminals installed at client locations.

  - The Banking Division, with over 200 clients, provides mainly batch processing services from four data centers in Philadelphia, Chicago, Atlanta and Fremont (OH).

    - Banking services provided include:

      - Central Information File: demand deposit, time deposit, commercial loans, personal loans and general ledger.

      - Teleport: for bank and pension fund investment departments for managing portfolios.

      - Teletrust: an on-line personal trust accounting service oriented toward the smaller bank trust department.

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- Remote Item Processing (RIP): a combination of mini-computers, telephone lines and check processing equipment that reduces the physical movement of checks from place to place and speeds payments.

. ADP's new nationwide bank processing services are now operational in Philadelphia and Chicago. Expansion into Philadelphia was the result of the acquisition of the correspondent banking operations of Philadelphia National Bank.

- ADP's "national" banking service provides all information processing for checking, savings, mortgages, commercial loans and money market activities at small- and medium-sized banks.

- The Thrift Services Division provides computing services for savings and loan institutions in the Midwest and East. With the acquisition of Total Systems, Inc. in June 1980, ADP expanded its geographic coverage to serve thrift institutions in the southern region.

. Total Systems operates four data centers in Texas, Georgia and Louisiana. Its thrift institution programs will form the basis for ADP's national offering of thrift services.

. ADP's new thrift service will use a proprietary intelligent terminal and will provide complete computing services for share loans, NOW accounts, construction loans and other related services.

• INPUT estimates ADP's Special Industries segment contributed $90 million to total revenues in FY 1980, and grew 17% over the 1979 revenue estimate of $77 million. Special Industries consist of the Dealer Services Division, ADP Collision Estimating Services, Pension Services and FASTRENTS.

- Dealer Services provides complete accounting and management information services to franchised new car dealers and to a variety of truck and equipment dealers. Services are delivered through a variety of methods ranging from traditional batch services, shared processing systems installed in regional offices, on-site systems and on-line distributed systems using intelligent terminals.

. ADP's on-site system for automotive dealers is offered on a Microdata minicomputer. It can operate as a standalone system or be used on a shared basis. Applications are integrated and include: accounting, inventory, repair management, service merchandising, financing and insurance, leasing, payroll and word processing.

. ADP's Dealer Communication Service (DCS) combines a DEC intelligent terminal to provide communications between automo-

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tive dealers and the factory for ordering, warranty services and claims processing. Factory dealerships can then use DCS for other processing functions such as financial reporting and inventory management. When sold under this arrangement, the factory's processor is used as the host machine. Over 2,000 factory/dealer terminals are installed at Chevrolet, Pontiac, Oldsmobile and other dealers.

- ADP's Collision Estimating Service, formerly the Audatex division of Itel Corporation, offers an on-line service for estimating the cost of automobile repairs in the U.S. and Canada. The data base contains part numbers and costs on over 2,000 different domestic and foreign cars, representing over 85% of all 1970 and later cars in use in the U.S.

  - The system is used by insurance companies, auto repair shops, independent insurance adjustors and large fleet owners to improve manual methods of estimating repair costs.

  - Eleven out of the 25 largest automobile insurers are under contract to use the system.

  - ADP Network Services Division will provide the network and computing resources for delivery of the service.

- The Pension Services Division provides batch accounting and reporting services for qualified individual (IRA) and corporate (Keogh) retirement plans. Approximately 13,000 retirement plans are administered for small businesses and individuals under Internal Revenue Service-approved master plans.

  - Pension Services is headquartered in San Francisco. In 1980, offices were opened in Chicago, Houston and New York City.

- ADP FASTRENTS is a batch processing service offered in the East. FASTRENTS provides computerized bookkeeping and financial information services to the property management industry. Clients include builders, developers, banks, property owners and professional managers of rental units.

GEOGRAPHIC MARKETS Approximately 91% of ADP's revenues are derived from U.S. operations and 9% from foreign sources, primarily Europe.

COMPUTER HARDWARE

- ADP Network Services maintains data centers in Ann Arbor (MI), Waltham (MA) and London. Equipment used to provide network services includes a number of DEC System 10s.

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- Commercial Services maintains about 45 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 360/370 systems.
- Brokerage Services maintains a data center in New York. Amdahl V6 and V7 systems are installed.
- Banking Services data centers are in Philadelphia, Chicago, Atlanta and Fremont (OH). Equipment in the centers consists of IBM 370s.

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COMPANY HIGHLIGHT

Don Footle

AUTOMATIC DATA PROCESSING, INC.
405 Route 3
Clifton, NJ 07015
(201) 472-1000

Frank R. Lautenberg, Chairman
Josh S. Weston, President
Public Corporation, NYSE
Total Employees: 11,000
Total Revenues, Fiscal Year End 6/30/79: $371,064,000
Total Computer Services Revenues: $363,000,000

THE COMPANY

- In 1979 Automatic Data Processing, Inc. (ADP) celebrated its 30 year anniversary. Originally formed in 1949 as Automatic Payrolls, Inc., ADP is one of the oldest and largest computer service companies in the world.

- ADP is the leading supplier of computerized bookkeeping services in the areas of payroll, accounts receivable, accounts payable, and general ledger for small to medium-sized firms. Although this activity continues to supply over 50% of ADP's revenue, the company has taken a leadership position in remote computing services. ADP currently ranks in the top ten RCS companies along with Control Data, GEISCO, Tymshare, MCAUTO, Computer Sciences, United Computing, National CSS, Comshare, and Boeing Computer Services.

- ADP reported revenues of $371,064,000 in FY 1979, a 24% increase over 1978 revenues of $299,260,000. ADP's revenues have increased at an AAGR of 23% for the past five years. Net income in FY 1979 showed a gain of 21% to $33,228,000, from $27,407,000 in 1978. A five year financial summary follows:

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ADP
FIVE YEAR FINANCIAL SUMMARY
($ Thousands, Except Per Share Data)
(FYE 6/30)

ITEM / FISCAL YEAR	1979	1978	1977	1976	1975
Revenues	$371,064	$299,260	$245,487	$199,244	$163,182
. Percent increase from previous year	24%	22%	23%	22%	26%
Income before taxes and extraordinary item	$ 64,128	$ 54,025	$ 49,972	$ 36,982	$ 28,058
. Percent increase from previous year	19%	8%	35%	32%	18%
Net income	$ 33,228	$ 27,407	$ 23,308	$ 18,732	$ 14,405 (A)
. Percent increase from previous year	21%	18%	24%	30%	17%
Primary earnings per share (C)	$ 2.21	$ 1.84	$ 1.58	$ 1.28	$ .99 (B)
. Percent increase from previous year	20%	19%	23%	29%	18%

(A) Includes extraordinary item of a tax benefit credit of $120,000 for loss carry forwards of companies acquired in pooling-of-interests transactions.
(B) Earnings per share before extraordinary item were $.98.
(C) All per share amounts have been restated to reflect the two-for-one stock split effective June 15, 1976.

- ADP's growth from a $26.7 million firm in 1969 to $371.1 million ten years later is attributable, in part, to an active acquisition policy which the company began in the mid-sixties.

  - In addition to acquiring over 60 companies during this period, ADP has expanded its business base by taking over payroll operations from several hundred banks.

  - However, if all of the revenues of the companies acquired (at the time of acquisition) were totaled it would only amount to $80-90 million. The majority of the companies acquired were small firms and were purchased to obtain a product or gain entry into a specific geographic region.

  - ADP's growth has come primarily by effectively managing and integrating its acquisitions with current product lines and expanding its market base. The contribution acquisitions have made to ADP's revenue growth has declined from 3% in 1978 to less than 1% in 1979.

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- ADP's acquisition activity remains an important strategy to enter new market areas. Companies recently acquired by ADP (or that are pending) follow:

  - SERIG Informatique S.A., Paris: ADP purchased 70% of SERIG's common stock for $750,000 in May 1979. The company provides payroll and general data processing services. SERIG's revenues at the time of acquisition were approximately $2 million.

  - Data Computation of Georgia, Inc., Atlanta, GA: acquired in April 1979 for an undisclosed amount of cash. Data Computation provides EDP services to banks in the Southeast.

  - Programmed Tax Systems, Inc. (PTS), Garden City, NY: acquired in January 1980 for 130,000 shares of ADP common stock. PTS provides income tax processing services for individual, corporate, and partnership returns. The company serves over 2,000 accounting firms and operates in ten Eastern states. For the year ended May 31, 1979, PTS had revenues of approximately $3.2 million and pre-tax earnings of approximately $600,000.

  - Audatex, Hayward, CA, is pending final closure. A former subsidiary of Itel, Audatex provides a service for estimating automobile repair claims. ADP will purchase the company for $15 million in cash. Audatex had revenues of $4.4 million in 1978 but was not profitable. ADP expects the company to be profitable by FY 1981.

- Negotiations to acquire Bierly and Associates, Inc. and Reed Roberts Associates, Inc. have been terminated.

- In 1979, ADP entered into two joint ventures:

  - A joint venture was formed with the Bank of Montreal, Canada in July 1979. ADP will assume the payroll processing services formerly performed by the bank. Services will be provided through a new company, Canadian Automatic Data Processing, which will be owned equally by the two firms.

  - Townsend-Greenspan & Company and ADP formed a joint venture in October 1979 to provide on-line economic information and econometric computing services. The new venture, named the ECONALYST service, will offer a full range of services including economic forecasts and reports, economic models, public domain and proprietary economic data bases, and seminars.

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KEY PRODUCTS AND SERVICES

- ADP is organized into five functional service areas. INPUT estimates its 1979 revenue sources as follows:

	Percent of Total	Revenue Value ($ millions)
Commercial Services	52%	$ 193
Network Services	15	57
Financial Services	10	37
Special Industries	21	77
~~Graphic Arts~~	~~2~~	~~7~~
	100%	$ 371

- Commercial Services, ADP's oldest and largest service organization, has consistantly supplied 50% or more of the company's revenue base. Although industry estimates place batch services at a growth rate of 8% per year, this has not been the experience at ADP. Commercial Services, which is primarily batch, has grown in excess of 20% per year.

  - ADP currently provides accounting services to over 75,000 clients. One of the largest components of Commercial Services is payroll preparation.

    . Estimated to supply approximately one-third of ADP's total revenues, ADP Payroll Service now processes more than one out of every 25 payroll checks issued to American workers.

    . In order to capture a larger share of the market for payroll services, ADP has opened a National Teledata Center in St. Louis to serve multi-location payroll clients. Using toll-free lines, clients can telephone payroll changes to the center.

  - A complete range of accounting and management information services such as accounts payable, accounts receivable and general ledger are offered to small and medium-sized business firms.

    . New accounting application services planned for 1980 include:

      - Interactive accounting services for accounts receivable and an on-line billing inquiry will be combined with batch services.

      - An on-site product, Interactive Accounting System (IAS), will be offered on a Hewlett-Packard 3000. This new offering will be marketed along with a similar accounting system which uses a Microdata minicomputer.

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- The new offerings are planned to provide clients with upgradability as their needs for data processing change. Companies can start with batch services, move to a combination of batch and on-line applications and ultimately install an in-house system without changing accounting systems or vendors.

- Another important area ADP is emphasizing is "employer services" which will be offered as an extension to its payroll and accounting services. One of the services, Unemployment Cost Control, assists firms in establishing appropriate levels of unemployment tax payments based on a combination of actual company unemployment experience and local regulations.

• ADP's Network Service organization is the outgrowth of four major acquisitions completed several years ago: Cyphernetics, First Data Corporation, Time Sharing, Ltd., and Information Sciences (Portland, OR). The combined revenues of these companies at the time of acquisition was approximately $30 million. INPUT estimates Network Services revenues were $57 million in FY 1979 and grew 18% over FY 1978.

- ADP Network services are currently available to 120 U.S. cities, Canada, the United Kingdom and Continental Europe.

  - A profile of the applications offered on the network is presented in Exhibit A.

  - Leading application products on the network are IPL, FML, TSAM, and APEX.

- ADP's user site hardware service, ADP/Onsite, announced in March 1978 has been a very successful product. Between the period of July 1978 through November 1979, ADP installed 27 systems. ADP is averaging more than $15,000 per month per installation for the system. INPUT estimates ADP's FY 1979 revenue from Onsite was approximately $3.0 million. ADP management expects FY 1980 revenues from Onsite will be more than $8 million.

  - The ADP/Onsite combines a DEC 2020 with program development software and application products for local processing. In addition, Onsite operates as a part of the ADP international network.

  - Base price of a system, including maintenance and support, starts at $10,000. Application software licenses for an additional $500 to $1,500 per month depending on the product. All systems are leased for a minimum period of three years.

  - Sales of Onsite have been to a combination of existing clients on the network and to new customers.

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EXHIBIT A

ADP NETWORK SERVICES' PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
• OPERATING ENVIRONMENT – DEC SYSTEM 10, ADP COMMAND LANGUAGE (CL) – ADP/ONSITE • PROGRAMMING LANGUAGES SUPPORTED – BASIC – COBOL – FORTRAN – MACRO 10 • DATA MANAGEMENT SOFTWARE – IPL – SYSTEM 1022 • DATA BASES AVAILABLE – TOWNSEND-GREENSPAN SHORT-TERM AND LONG-TERM FORECASTS – U.S. MACRO ECONOMIC – U.K. MACRO ECONOMIC – INTERNATIONAL FINANCIAL STATISTICS – MONEY MARKETS – FLOW OF FUNDS – FOREIGN EXCHANGE RATES – BUSINESS CONDITIONS DIGEST – CONFERENCE BOARD – PRODUCERS PRICE INDEX – CONSUMER PRICE INDEX – COMPUSTAT – EXSTAT – FASTOCK – BANCOMPARE – BANCALL – SITE II	• FINANCIAL APPLICATIONS – FML (FINANCIAL MODELING) – FINANCIAL CONSOLIDATED SYSTEMS – FINALYST (INVESTMENT ANALYSIS: MERGERS AND ACQUISITIONS) • CASH MANAGEMENT – DEPOSIT REPORTING – BALANCE REPORTING – AUTOMATED WIRE TRANSFER • BUSINESS ANALYSIS TOOLS – TSAM (TIME SERIES ANALYSIS) – ECONALYST (ECONOMETRIC FORECASTS AND MODELS) • PROJECT MANAGEMENT – APECS (PROJECT EVALUATION AND CONTROL) • OTHER APPLICATIONS – XCALABER (CROSS TABULATION) – CYPHERGRAPH (GRAPHICS) – CYPHERTEXT (TEXT PROCESSING) – SPSS (STATISTICAL ANALYSIS)

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- Financial Services, contributing 10% of ADP's revenues, includes services provided to the brokerage industry and to banking and thrift institutions.

  - ADP's brokerage services have traditionally consisted of back office trade processing and management reporting systems for securities transactions. Services have been expanded to include portfolio reporting, cage management, order entry, and on-line customer inquiry.

    - The Cage Management Service (CMS) provides on-line real-time information on the movement of cash and securities and automates the input to accounting systems.

    - The division's on-line Data Network Services (DNS) links branch offices of brokerage firms directly with the exchanges where securities trades are executed. During 1978 capabilities were expanded to provide data collection through DNS.

    - A related service, Broker Terminal Service (BTS), allows on-line inquiry of a customer's account status. Information available includes a 30 day history of trading in the account, holdings, dividends, and margin data.

    - Brokerage Services plans to develop new offerings in such areas as commodities and government bond trading.

  - The Banking and Thrift Services offers direct accounting services to financial institutions, primarily those under $100 million in deposits. Banking services are available throughout the Rocky Mountain states, Missouri, Oklahoma, and Illinois. Thrift services are available in the Mid-West and Mid-Atlantic States at the present time. Over 300 financial institutions currently use ADP's services.

    - Banking services provided are primarily batch and include the following:

      - Central Information File: demand deposit, time deposit, commercial loans, personal loans and general ledger.

      - Teleport: for bank and pension fund investment departments for managing portfolios.

      - Teletrust: an on-line personal trust accounting service oriented toward the smaller bank trust department.

    - Thrift services include on-line teller terminal support services and a new automated teller system.

    - Additionally, ADP participates in markets for cash management, Electronic Funds Transfer services and has developed a pilot pay-by-phone system.

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- The Special Industries segment of ADP consists of services provided to automotive dealers, real estate management, and pension services.
  - Dealer Services provides processing services on shared Microdata systems installed in regional ADP offices to franchised vehicle equipment dealers. Applications include accounting and inventory management.
    - ADP also offers an on-site system for dealers using a Microdata minicomputer. The on-site dealer system functions on a stand-alone or shared basis.
    - A new Dealer Communication Service (DCS) has been announced. DCS combines a DEC intelligent terminal to provide communications between automotive dealers and the factory for ordering, warranty services and claims processing. Factory dealerships can then use DCS for other processing functions such as financial reporting and inventory management. When sold under this arrangement, the factory's processor is used as the host machine.
      - DCS is also installed in independant dealerships for local processing of daily reports and for submittal of batch requests to an ADP data center.
  - ADP FASTRENTS is principally a batch service offered in the East. FASTRENTS provides computerized bookkeeping and financial information services to the property management industry. Clients include builders, developers, banks, property owners, and professional managers of rental units.
  - Pension Services provides batch services for accounting and reporting functions for qualified retirement plans. These services are marketed directly to clients and through affiliations with banks in major cities.

GEOGRAPHIC MARKETS Approximately 91% of ADP's revenues are derived from U.S. operations and 9% from foreign sources, primarily Europe.

COMPUTER HARDWARE

- ADP Network Services maintains data centers in Ann Arbor (MI), Waltham (MA), and London. Equipment used to provide network services includes a number of DEC System 10s.
- Commercial Services maintains 36 data centers in various locations in the U.S. and Europe. Computer equipment installed is predominantly IBM 360/370 systems.
- Financial Services maintains a service center in New York. Amdahl V6 and V7 systems are installed.

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notes from Liddle Peabody report on ADP

Contact Dick Patterson, VP Finance to update Hidita on Dave Hathaway Crisp Nathan

COMPANY HIGHLIGHT

Client

Josh Weston, President & COO

AUTOMATIC DATA PROCESSING INC.
405 Route 3
Clifton, NJ 07015
(201) 472-1000

Frank A. Lautenberg, Chairman & CEO
Public corporation, NYSE
Total employees: 7,500
Total revenues, fiscal year end
6/30/77: $245,487,000
Cpt/hrs = E 235,667,000

Non svcs - Blueprint, graphic arts & repro svcs offered thru subs

Printing Co. (less 20% in 77)

THE COMPANY

founded in 1949 to offer payroll batch

- Automatic Data Processing, Inc. (ADP) principally provides packaged general business data processing services. In the last year it has increased its industry-specialized services and is now offering turnkey small business computer systems as part of some services.

- Three acquisitions in FY 1977 led to restated revenues and earnings for 1976:

  - The CPI Group Incorporated, Newport Beach, CA, with 6/30/76 revenues of approximately $3.3 million and net earnings of approximately $450,000. It provides computerized administrative, trustee and custodial services for individuals, proprietorships and partnerships, and small corporations.

  - First Data Corporation, Waltham, MA with 3/31/76 revenues of $5.8 million and net earnings of $700,000. FDC provides DEC 10-based interactive, remote batch and local batch processing services to primarily government, manufacturing, and distribution clients.

  - Financial Computer Corporation, Clifton, NJ, with FY 1977 revenues of $2 million. FCC provides 78 savings and loan associations and 11 mortgage bankers in New York and New Jersey with on-line financial industry accounting services. It was acquired by ADP in March 1977.

acq bank payroll outsourcers thru: Citibank Mg Hanover UCB

- One of the largest computer services companies in the world, ADP grew from $163.2 million in 1975 to $199.2 million in 1976 (restated) a growth of 22%. ADP's 1977 revenues reached $245.5 million, a 23% increase over 1976 revenues. The company earned $23.3 million in 1977, a growth of 25% over restated 1976 net earnings of $18.7 million. Restated net earnings per share during the same period increased 22% from $1.28 to 1.58 with 14,786,000 shares outstanding.

Growth: 60% existing clients 40% new clients

- The major management challenges are:

  - To harmoniously integrate new acquisitions into the company.
  - To further integrate the network and commercial services into a

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total package competing effectively against the in-house small business computer systems.
- Integrate mini/microcomputer products into the total service package offered by ADP.
- Maintain the growth & profitability momentum to enable the company to maintain its acquisition momentum.

- There are over 7,500 employees working at ADP. They are segmented as follows:

Marketing	15%
Administration	12
R&D	5
Operations	68
	100%

1000 salesmen exp. approx 15% to 20% FY78

KEY PRODUCTS AND SERVICES

- ADP revenues are generated by the following groups:

Commercial Services	50%
Network Services	15
Special Industry Services	35
	100%

(65% payroll) 40,000 customers
2000 customers
Dealer 500 (E35M)
Fin Docs 61M)

- Despite an acceleration of emphasis from batch processing to remote computing, the latter still constitutes 20% of revenues with batch services accounting for the balance.

- The Commercial Services group provides payroll processing, accounts payable, accounts receivable, general ledger and financial reporting services to over 40,000 accounts.

- Cyphernetics forms the core of the Network Services Division. Delos and First Data will round out the on-line processing services provided by ADP. All three of these on-line processing groups use the DEC System 10 as their mainframe processor.

- Special industry services include:

  - ADP Autonet-management information systems for over 200 liquor wholesalers
  - ADP Dealer Services-accounting and inventory services to approximately 6,000 auto, farm, and industrial dealers in 50 states.

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- Banking and Thrift Services-batch and on-line accounting services to commercial banks and thrift institutions.
- Financial Data Services-computerized recordkeeping and securities management services for the investment community. ADP recently announced an agreement with the Midwest Stock Exchange Service Corporation (MSESC) whereby MSESC's approximately 50 customers will have the opportunity to convert to ADP's brokerage data processing services.
- Real Estate Management Services-full service ADP FASTRENTS, used by builders, developers, banks, and property owners and managers of more than 600,000 rental units.
- Health Information Services-on-line, batch, and remote batch processing services to more than 190 nursing homes and medical centers.

- ADP also offers retirement plan accounting and administration services for individuals and small corporations.

APPLICATIONS ADP application revenues are derived as follows:

	Batch	On-Line	Total
General Business	44%	4%	48%
Scientific & Engineering		1	1
Specialty Applications	35	5	40
Utility		10	10
Other	1		1
TOTAL	80%	20%	100%

INDUSTRY MARKETS

- ADP provides services to more than 45,000 firms from a variety of industries, primarily manufacturing, distribution, and banking, as shown below:

- Manufacturing: discrete and process	34%
- Banking and finance	30
- Distribution - wholesale and retail	28
- Utilities	3
- Medical/Hospital	3
- Government	2
	100%

-550 banks
200 brokerage clients rep
1.5M brok. acct.

- Occasionally ADP also serves the services industry: accountants, construction companies, hotels, theaters, architects, engineers, and research firms.

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GEOGRAPHIC MARKETS

- ADP branch and sales offices are distributed throughout the U.S. and Europe. Recently the firm has also opened offices in Brazil. ADP's estimate of its 1977 revenue distribution by geographic region is as follows:

New England	10%
Northeast	30
North Central	20
Southeast	10
Midwest	10
Pacific States	9
South Central	5
West	2
International	4
Total	100%

- ADP U.S. facilities and locations are as follows:

Akron, OH	East Hanover, NJ	Morriston, NJ
Albany, NY	Florence, KY	Mountain View, CA
Ann Arbor, MI	Fremont, OH	Nashville, TN
Ashland, KY	Fort Worth, TX	Newport News, VA
Atlanta, GA	Grand Rapids, MI	New York, NY
Auburn, MA	Hartford, CN	Norfolk, VA
Baltimore, MD	Holland, MI	Orlando, FL
Bath, ME	Honolulu, HI	Philadelphia, PA
Binghamton, NY	Houston, TX	Phoenix, AZ
Birmingham, AL	Indianapolis, IN	Pittsburgh, PA
Boston, MA	Kalamazoo, MI	Portland, OR
Buffalo, NY	Kansas City, KS	Princeton, NJ
Centralia, IL	Kansas City, MO	Providence, RI
Chicago, IL	Kensington, MD	Richmond, VA
Cincinnati, OH	Lansing, MI	Rochester, NY
Cleveland, OH	Long Beach, CA	San Diego, CA
Clifton, NJ	Long Island, NY	San Francisco, CA
Coldwater, MI	Los Altos, CA	Seattle, WA
Columbus, OH	Los Angeles, CA	Stamford, CT
Dallas, TX	Louisville, KY	St. Louis, MO
Dayton, OH	Lutherville, MD	St. Paul, MN
Denver, CO	Mason, MI	Syracuse, NY
Detroit, MI	Miami, FL	Tampa, FL
District of Columbia	Milwaukee, WI	Toledo, OH
East Brunswick, NJ	Minneapolis, MN	Troy, OH

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- International locations are in Sao Paulo, Brazil; Calgary, Toronto, and Vancouver, Canada; Antwerp and Brussels, Belgium; Dublin, Ireland; Milan, Italy; Amesterdam, Rotterdam, and The Hague, Netherlands; Zurich, Switzerland; Birmingham, London, and Manchester, United Kingdom; and Cologne, Dusseldorf, and Frankfurt, West Germany.

COMPUTER HARDWARE AND SOFTWARE: ADP uses a variety of computer equipment, as shown below:

55	IBM	360 and 370, approximately 15 of these are 370 series
25	DEC	PDP-10
125	DEC	PDP-8 & PDP-11
2	Burroughs	4700
3	Honeywell	2200
3	Sperry Univac	418

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DETAILED COMPANY PROFILE

AUTOMATIC DATA PROCESSING, INC.
405 Route 3
Clifton, New Jersey 07015
(201) 472-1000

Frank R. Lautenberg, President
Public Corporation,
widely held

Total Company and Computer Services Sales
as of FY ending 6/75: $154,682,000
FY ending 6/76 preliminary: $188,000,000 E*

NUMBER OF EMPLOYEES engaged in computer services: 6,500 (6,200 in U.S.)

KEY PRODUCTS/SERVICES: ADP is the largest independent computer services company. Batch services account for 85% of ADP revenues and remote computing constitutes the remaining 15% Key products include: payroll services, accounts payable, accounts receivable, general ledger, order entry, invoicing and inventory control systems, financial services, brokerage and portfolio management services, parts inventory control, franchise accounting, wholesale distribution accounting, wine and spirits distribution accounting, automobile dealer accounting, nursing home and hospital accounting. As demonstrated by the following detailed discussion of ADP products by division of the company, they are highly applications oriented.

- ADP COMMERCIAL SERVICES: This is the largest division of ADP and provides general business services to more than 35,000 companies with employees numbering from 10 to 20,000. Services include:

  - Payroll processing: provides employee pay checks, direct deposit, quarterly and annual social security and income tax withholding reports, W-2 withholding statements, historical earnings record, welfare and pension fund reports, statistical and audit reports.

  - Accounts payable: provides purchase journals, vendor ledgers and checks, check register, expense distribution, budget comparison and analysis, cash requirement forecast, open item report.

  - Accounts receivable: provides customer ledgers, management reports, sales analysis, commission reports, transaction journals, aging schedules.

*E- sales estimated by INPUT.

- General ledger financial reporting: provides P&L statements, balance sheets, comparative statements, departmentalized reports, working capital and cash flow analysis, income and expense journals.

- ADP NETWORK SERVICES: This division was known as Cyphernetics Corporation prior to its acquisition in 1975. The network employs over 30,000 miles of leased lines, two satellite channels and 60 communications computers. It handles over 50,000 accesses per month and employs packet switched technology. Services include:

  - Data Base Services

    COMPUSTAT: contains extensive financial data on over 3,500 U.S. companies, updated weekly. The data base was developed and is maintained by Investor's Management Sciences.

    Chase: a family of data bases, including economic series on the U.S. and world economy, business conditions and financial data. It is maintained on Cyphernet System by Chase Econometric Associates.

    MSF, Master Securities File: a listing of current price information on over 85,000 securities.

    Bancall: provides financial data on over 14,000 banks from official government reports semiannually.

    Site: a demographic data base which utilizes 1970 U.S. census information.

    MSSS, Mass Spectrometry Data Base and Search System: for identification of more than 25,000 chemical compounds.

    EPH, Environmental Protection Agency Base.

  - Financial and Banking Services

    Finalyst: an array of analytical implements for investment and financial communities.

    CypherTab: an aid in preparation of consolidated budgets, variance reports, cash flow projections, profit plans, sales reports, cost estimates and other management reports.

    Lease 100: a lease analysis system.

BUDGET: for preparing, revising and producting budgets and for comparing actual performance against budget.

ORACLE: a business planning and control system which analyzes business situations and which is designed to aid in decision making.

- Statistics and Data Analysis

TSAM, Time Series Analysis and Modeling for management: for display and analysis of time-dependent data; used by forecasters, economists, planners and managers.

CypherStat: data analysis system using some 50 statistical techniques.

SUPERSTAT: a comprehensive statistical analysis system.

- Information Processing Services

IPL: general purpose language for development of transaction-oriented systems.

CPMS, Cyphernet Project Management System: used for planning and scheduling.

MANAGER: an information management and reporting system.

PERT7: provides time analysis, resource analysis and scheduling, cost analysis, and progress reporting for project planning and control.

- Management Graphic Services

CUPID: for interactive data planning.

PCUPID: for hard copy output of data generated by CUPID.

Numerous bar charts, histograms, single and multi-line graphs, flow charts in multiple colors are also available.

- Text Processing Services

Provide text entry, storage, editing, formatting and photocomposition in production of manuals, catalogs, directories, proposals and other word processing applications.

- Additional remote computing services provided by ADP network services include:

  Brand management
  Control system design
  Corporate planning
  Fault analysis
  Inventory control
  Labor/material costing
  Library indexing
  Market research/analysis
  Operations research
  Personnel records
  Price structuring
  Profit/loss projections
  Purchase order analysis/control
  Sales analysis/forecasting

  ADP Network Services also has a European Division which was formed in 1976 with the acquisition of Time Sharing Ltd., probably the largest independent remote computing company in Europe. This division provides a variety of services from offices in Great Britain, Ireland, Belgium, Holland, West Germany, Italy and Switzerland, and operates a computer center in London.

- ADP BUSINESS SYSTEMS SERVICES: By using either remote computing techniques or mini-computers, this division provides the following types of services: order entry, invoicing, inventory control, accounts receivable, accounts payable, general ledger and financial reporting, sales analysis.

- ADP SERVICES FOR FINANCIAL INSTITUTIONS: This division provides the following services to over 500 banks:

  - Automated Customer Services: includes payroll, accounts receivable, accounts payable, general ledger/financial reporting, bank data processing services.

  - Investment Services:

    Shareholder Accounting Services: provides accounting functions related to mutual fund shareholder accounting, record maintenance, account status, purchases, sales and transfers of shares, distribution and dividend records, proxy preparation, tabulation and reporting, tax preparation and accounting, bank reconciliation processing.

Portfolio Management: for trust departments; provides income tax planning, collateral loan evaluation, on-line brokerage processing for securities, custodial data services.

- Bank Data Processing Services: provides the following industry-specialized applications products to banks: installment and commercial loan accounting, savings, demand deposit, certificate of deposit accounting, central information file, Master Charge and Stockholder accounting, Christmas Club savings, remote item processing with proof and transit, cash dispensing, credit checking (over draft banking), check reconciliation and statement message services, posting, safe deposit box rental notice, computer output microfilm.

- Savings and Loan Data Processing Services: provides daily updating of savings and mortgage accounts.

- ADP SERVICES FOR THE SECURITIES INDUSTRY: Next to payroll services, securities industry data processing is ADP's oldest line of business. This division serves over 200 brokerage customers, bank trust departments, law firms doing trust work, investment counselors, pension consultants, public accounts, insurance companies, mutual funds and corporate pension fiduciaries.

  - Financial Services: provides back office accounting and other financially-oriented services to securities firms.

  - Brokerage data network services provides communications between brokers, clients and various stock exchanges.

  - Portfolio Reports: enable investors, investment advisors, money managers and fiduciaries to review, analyze and evaluate their securities portfolios and investment performance.

  - Cage Management: facilities handling and routing of securities through the brokers cage and pinpoints money and market positions from minute to minute.

- ADP AUTOMOTIVE DEALER SERVICES: This division provides parts inventory control, lease accounting, sales and service followup and accounts payable, receivable and general ledger services to over 5,000 franchised vehicle and equipment dealers. This division offers SAM, Stand Alone Management System, which is a data base management system which ties together sales, service, rental and parts departments with the dealer's business office.

- ADP WINE & SPIRITS DISTRIBUTOR SERVICES: This division provides order processing, invoicing, inventory control, accounts receivable, and sales analysis to over 200 wholesale distributors, mostly in the wine and spirits industry. Available primarily through ADP's Autonet System, services are now also available on turn-key basis as well.

- ADP REAL ESTATE MANAGEMENT SERVICES: Known as ADP FASTRENTS, the service provides comprehensive rental record-keeping and financial preparation services such as balance sheets, consolidated financial statements and schedules, cash disbursements statements, comparative property analysis, commission and FHA/HUD reports, general ledger, rent collection reconciliation, bank deposit listings, auditors trial balance, monthly rent roll, rent delinquency, vacancy, lease expiration, commercial lease escalation clause analysis and tenant billing. The package is used by over 100 builders, developers, banks, REITS, property owners and property managers of some total 600,000 apartment rental units.

- ADP HOSPITAL AND NURSING HOME SERVICES: Also known as the Health Information Systems Division, the following services are provided on both a batch, interactive and remote batch basis to over 200 nursing homes: payroll, accounts receivable accounts payable, general ledger, inpatient and outpatient billing, billing to third party insurers, inventory control, budget cost analysis and specialized statistical analysis.

ADP Commercial Services is part of the Commercial Services Group. Special Industry Services Group includes the Real Estate Management Services and Hospital/Nursing Home Services, Automotive Dealer Services, Wine and Spirits Distributor Services. The Financial Services Group includes Network Services, Services for the Securities Industry and Business Systems Services.

APPLICATIONS: ADP services are highly applications oriented, as indicated by the previous discussion of specific services. Most applications are general business in nature, and these generate 98% of sales revenues. Data base and scientific calculations account for the remaining 2% of U.S. sales.

Primary general business applications include:

- Payroll, which accounts for about 35% of revenues

- Accounts Payable
- Accounts Receivable
- General Ledger

  } combined, accounting applications account for about 15% of sales

- Brokerage applications, which account for about 8% of revenues

The balance of sales are distributed among such applications as the following:

Order entry
Inventory control
Financial planning
Budgeting
Lease accounting
Tax planning and preparation
Outpatient billing
Inpatient billing
Text processing
Graphics
Portfolio and investment performance
Stock order matching
Shareholder accounting
Banking services
Statistical analysis
Operations research
Market research and analysis
Library indexing
Brand management
Fault analysis

INDUSTRY MARKETS: ADP serves several industries, but primarily manufacturing, distribution and banking, as shown by the distribution of sales below:

• Manufacturing	35%	E	
• Banking	30%		(commercial banks and savings and loan institutions)
• Wholesale and retail distribution	28%	E	(automotive dealers, restaurants, wine and spirit dealers)
• Utilities	3%		
• Medical/Hospital	3%		(hospitals and nursing homes)
• Government	1%		
Total	100%		

Occasionally ADP also serves accounting firms, construction companies, hotels, theaters, architects, engineers, and research firms.

GEOGRAPHIC MARKETS: ADP branch and sales offices are distributed throughout the U.S. and Europe. Recently the firm has also opened offices in Brazil.

Following is an estimate of geographic distribution of 1975 revenues.

New England	11%
Northeast	29%
North Central	22%
Southeast	11%
Midwest	8%
Pacific States	8%
South Central	6%
West	3%
International	2%
Total	100%

ADP facilities and locations are located as follows:

Akron, OH
Albany, NY
Ann Arbor, ME
Ashland, KY
Atlanta, GA
Auburn, MA
Baltimore, MD
Bath, ME
Binghamton, NY
Birmingham, AL
Boston, MA
Buffalo, NY
Centralia, IL
Chicago, IL
Cincinnati, OH
Cleveland, OH
Clifton, NJ
Coldwater, MI
Columbus, OH
Dallas, TX
Dayton, OH
Denver, CO
Detroit, MI
District of Columbia
East Brunswick, NJ
East Hanover, NJ
Flint, MI
Florence, KY
Fremont, OH
Fort Worth, TX
Grand Rapids, MI
Hartford, CN
Holland, MI
Honolulu, HI
Houston, TX
Indianapolis, IN
Kalamazoo, MI
Kansas City, KS
Kansas City, MO
Kensington, MD
Lansing, MI
Long Beach, CA
Long Island, NY
Los Altos, CA
Los Angeles, CA
Louisville, KY
Lutherville, MD
Mason, MI
Miami, FL
Milwaukee, WI
Minneapolis, MN
Morristown, NJ
Mountain View, CA
Nashville, YN
Newport News, VA
New York, NY
Norfolk, VA
Orlando, FL
Philadelphia, PA
Phoenix, AZ
Pittsburgh, PA
Portland, OR
Princeton, NJ
Providence, RI
Richmond, VA
Rochester, NY
San Diego, CA
San Francisco, CA
Seattle, WA
Stamford, CN
St. Louis, MO
St. Paul, MN
Syracuse, NY
Tampa, FL
Toledo, OH
Troy, OH

International locations are as follows:

Sao Paulo, Brazil

Calgary, Canada
Toronto, Canada
Vancouver, Canada

Antwerp, Belgium
Brussels, Belgium

Dublin, Ireland

Milan, Italy

Amesterdam, Netherlands
Rotterdam, Netherlands
The Hague, Netherlands

Zurich, Switzerland

Birmingham, United Kingdom
London, United Kingdom
Manchester, United Kingdom

Cologne, West Germany
Dusseldorf, West Germany
Frankfurt, West Germany

By acquiring Cyphernetics in June of 1975, ADP was allowed to enter some 30 additional metropolitan areas which were previously economically unfeasible.

COMPUTER HARDWARE AND SOFTWARE: While ADP uses a variety of computer equipment, IBM mainframes dominate, as shown below:

55	IBM	360 and 370, approximately 10 of these are 370 series
12	DEC	PDP-10
90	DEC	PDP-8
2	Burroughs	4700
3	Honeywell	2200
3	Sperry Univac	418

ACQUISITION HISTORY: ADP has acquired some 50 companies since it began an active expansion campaign about 1965. Following is a summary of most acquisitions made. More recent acquisitions have been network and product-oriented; earlier ones were for geographic expansion.

1976 (April) Information Sciences, Inc., Portland OR and Seattle WA
Purchased for an undisclosed amount of cash, ISI is a time-sharing firm with annual revenues of approximately $500,000. The firm was integrated into ADP Network Services.

1976 (April) Delos International Group, Princeton, N.J.
For about $5 a share, or a total of $7 million, ADP acquired this company for slightly less than originally anticipated. Annual revenues for Delos are about $5 million. With offices in England and Brussels as well as Princeton, the firm has been integrated with ADP's Cyphernetics division and represents part of ADP's thrust into the European and international marketplace.

1976 (March) Systems S.A., Sau Paulo, Brazil
The acquisition of majority interest (67%) of SSA, a computer services firm with annual revenues approximately $2.5 million marks ADP's entry into the South American market.

1976 (March) PCS Data Processing, Inc., Philadelphia, PA and Baltimore, MD
The brokerage services division of PCS Data Processing were acquired for an undisclosed amount of cash. Revenues for this division of PCS are about $860,000. The acquisition provides a means of offering brokerage services in the Baltimore and Philadelphia areas.

1975 Financial Computer Services, Inc., Fremont, OH
Previously owned by six Ohio banks, FCS was acquired for $1,950,000 cash. Its services to savings and loan institutions in Ohio, Michigan and Kentucky will complement ADP's existing savings and loan services.

1975 Institute for Electronic Administration, Rotterdam, The Netherlands
IEA, Holland's leading service bureau, and which specializes in Optical Character Recognition, has a staff of approximately 87.

1975 The Cyphernetics Corporation, Ann Arbor, MI
Acquired in June, 1975 Cypernetics had annual sales of about $16,200,000. It represents the largest acquisition by ADP. This step was crucial to ADP's network services and expansion into Europe. In addition, it provides a wider marketplace for existing ADP products, particularly in less accessible areas where marketing was previously economically unfeasible. Revenues for 1976 fiscal year should be about $21-$22 million.

1975 Payroll Computer Services, Inc., New York, NY
By acquiring this subsidiary of First National City Bank, ADP added some 1500 customers and a large data center in the heart of New York City.

1974 Wingate Corporation, Providence, RI and Hartford, CT
This acquisition allowed ADP to extend existing payroll services into new geographic areas.

1974 Base, Inc., Atlanta, GA
This acquisition expanded ADP's dealer services market into the Southeast region of the U.S. Base has been integrated into the Dealer Services Division.

1974 United Data Processing, Inc., Cincinnati and Columbus, OH
It provided entry into the savings and loan industry and expansion of inventory control for automotive parts.

1973 Hughes Computer Systems, Inc., Washington, D.C.
This provided expansion into a new market--the real estate industry.

1973 Nursing Home Processing Co., Lutherville, MD
This provided expansion of existing hospital services into a new geographic region. now it has been recently divested.

1973 Maley Thomas Corp., Buffalo, NY
This expanded payroll services into new geographic regions.

1973 National Inventory Control Systems, Portland, OR
NICS placed ADP in the field of inventory control services for automotive dealers and provided a data center in Portland. It was renamed ADP dealer services, along with CSI Computer Systems, Inc.

1973 CSI Computer Systems, Inc., Cincinnati, OH
This marked ADP's entry into accounting services for automotive industry. It was renamed ADP Dealer Services along with National Inventory Control Systems.

1973 FORMED ADP Network Services, New York, NY
This was internal expansion to provide message switching and order matching for brokers and to expand CAGE services.

1972 Computer Communications Network, Inc., Louisville, KY
This marked ADP's entry into both network services and services for wine and spirit wholesalers and hospitals. CCN was renamed ADP Autonet.

1972 Market Data Systems, Corp, New York, NY
This expanded existing portfolio services.

1972 Hospital Services Division of National Computer Services Corp., Nashville, TN
ADP expanded into a new market through this acquisition: hospital patient services and accounting.

1972 Eaton & Howard Shareholder Services, Inc., Boston, MA
ADP entered the business of mutual fund shareholder accounting by making this acquisition.

1971 Adaptive Systems, Inc.
This provided job and people matching and was renamed ADP Personnel Data Systems, Inc.

1971 Science & Medicine Publishing Co., New York, NY (now divested)
ADP entered a non-computer services line of business by acquiring this publisher of scientific and medical news.

1971 Litton Industries, Automated Business Systems Division
This provides general ledger services in New Jersey, Chicago and San Francisco data centers.

1971 RCA's Brokerage Business
This was integrated into Automatic Computer Services, Inc., a wholly-owned subsidiary of ADP which provides brokerage services.

1970 Robert S. Lehmann Corp., Los Angeles, CA
This provided geographic expansion

1970 Electronic Data Services, Inc., Chicago, IL
This was renamed Automatic Data Processing of Chicago, Inc., and provided geographic expansion.

1970 Data-Way Corporation, Westbury, Long Island, NY
This was renamed Automatic Data Processing of Long Island and provided geographic expansion.

1970	Keystroke Services, Atlanta, GA This provided geographic expansion.
1969	Delta Data Processing, San Jose, CA This provided geographic expansion.
1969	Petro Chemical Computing, Inc., Houston, TX This provided geographic expansion.
1969- 1970	FORMED Automatic Remote Computer Services, New York, NY This provided the first services to the brokerage community. CAGE Management Services were offered on-line.
1968	Systems Management Corp. of Baltimore, Baltimore, MD This added an accounting package for CPA firms and expanded geographic coverage.
1967	Computab Associates Inc. of Philadelphia, Philadelphia, PA This expanded payroll services to Philadelphia.
1967	Research Calculations, Inc., Boston, MA This provided entry into scientific and engineering services, and geographically, a center in Boston.
1966	Computer Services of Florida, Inc., Miami, FL This expanded payroll processing geographically.
1966	Analytic Computing Services, Inc., New York This provided a new package, accounts receivable, to offer in the New York area.
1965	Independent Blueprint & Supply Co. Inc., New York, NY This added a non-computer services product line of graphic arts, reproduction and duplicating services.
1965	Payrolls for Industry, Inc., Long Island, NY This expanded payroll services to New York bank customers.
1965	BPC Brokerage Processing Center Inc., New York, NY Brokerage services offered by this firm were integrated into those of Automatic Computer Services, Inc.

NAMES AND LOCATIONS OF SUBSIDIARIES: Several of ADPs acquisitions are operated autonomously as subsidiaries, as shown in the list of subsidiaries below:

Subsidiary	State of Incorporation
Automatic Data Processing of Buffalo, Inc.	Delaware
Automatic Data Processing of L.I., Inc.	New York
Automatic Data Processing of Manhattan, Inc.	New York
Automatic Data Processing of Maryland, Inc.	Delaware
Automatic Data Processing of New England, Inc.	Delaware
Automatic Data Processing of Pennsylvania, Inc.	Delaware
Automatic Data Processing of Washington,D.C., Inc.	Delaware
Automatic Data Processing of East Central, Inc.	Delaware
Automatic Data Processing Midwest, Inc.	Delaware
Automatic Data Processing South, Inc.	Delaware
Automatic Data Processing West, Inc.	Delaware
Automatic Data Processing of N.Y., Inc.	New York
Automatic Investors Data Services, Inc.	Delaware
Investor services consist of reports to and such people as investment advisors, money managers and fiduciaries evaluate security portfolios and performance of investments.	
ADP Portfolio Reporting Service, Inc.	Delaware
Services are similar to those of Automatic Investors Data Services, Inc.	
ADP Shareholder Accounting Service, Inc.	Massachusetts
E & H Shareholder Services, Inc.	Massachusetts
Both E & H and ADP Shareholder Accounting Service provide accounting services pertaining to mutual fund shareholder accounting. Investment managers are primary customers.	
ADP Autonet, Inc.	Massachusetts
Primary customers for accounting services are wine and spirits wholesalers and hospitals.	
ADP Dealer Services Ltd.	Canada (Federal)
Cyphernetics International Corporation	Delaware
Cyphernetics GmbH	West Germany
b.v. Instituut voor Electronische Administratie	The Netherlands
Independent Printing Co., Ind.	New York
The Cyphernetics Corporation was recently reorganized into ADP Network services.	

Science & Medicine Publishing Co. Inc., New York, a publisher of health care was recently sold.

KEY EXECUTIVES, AND BIOGRAPHICAL SKETCHES AND MANAGEMENT POSTURE:
Two key people within ADP are Chairman Henry Taub and President Frank Lautenberg. Taub founded the company in 1949 and Lautenberg joined him shortly thereafter. Taub tends to be more the philospher concerned with the broad direction of the firm and how it interelates with technology and society. Lautenberg is a dynamic individual, and more of a doer. They complement one another's leadership abilities very well. Both men come from non-technical backgrounds and recognize the limitations as well as the potential of the computer. The company has been built around their view of a computer as an effective tool for providing good customer service. Both men are still quite young and should provide several more years of capable management.

Henry Taub, Chairman of the Board, Director

Schooled in accounting, Taub was working as an accountant when at age 21 he was inspired to form a company which specialized in providing payroll services. He gradually built ADP into the success it is today. The success of ADP has been facilitated by his excellent intuition regarding the market and customer needs and he has a sophisticated knowledge of both capabilities and limitations of the computer as a business tool. A major turning point in direction occurred in 1962 when he left corporate headquarters to head the firm's first subsidiary and first venture away from payroll applications, which was brokerage processing. This marked the beginning of an acquisition era, which still continues very actively. Earlier acquisitions were made to expand markets geographically and later acquisitions have been directed toward product diversification. Taub now participates less in acquisitions than he did originally. During the past year in fact he has formally turned the chief executive officer functions over to Lautenberg. Taub is 49 years old.

Frank R. Lautenberg, President, Chief Executive Officer, Director

Lautenberg came from an insurance sales background when he joined ADP . He has dedicated himself to ADP, works long hours and is known to be demanding. He personally supervises a very aggressive acquisition campaign and travels frequently to oversee corporate affairs. Age 52, Lautenberg is very active and very involved in ADP. To some he is regarded as Mr. ADP. In recent years, much of the acquisition analysis and responsibility for acquisition integration has been absorbed by Bruce Anderson. Mr. Anderson is an extremely dynamic person who, with Josh Weston forms an 'Executive Office of the President' for ADP. Mr. Weston has been responsible for the 'guts' of ADP's business and has been instrumental in implementation and management of profitable operations techniques. Thus, some delegation of responsibility is occurring as ADP increases in size.

Bruce K. Anderson, Executive Vice President

Anderson assumed part of former corporate treasurer Gilbert Mintz's responsibilities in 1974. At that time he was a Group Vice President, and was named Executive Vice President during the past year. Prior to joining ADP he was associated with an investment banking firm and IBM. Age 36, Anderson holds a B.S. from the University of Minnesota and an M.B.A. from Harvard.

Josh S. Weston, Executive Vice President

Weston joined ADP in 1970 and was a Group Vice President until during the past year when he was named Executive Vice President. He was also an Executive Vice President for Popular Services, Inc., from 1962 to 1970. Popular Services is a mail order firm with annual sales of about $70 million. Weston is 48 years old.

Leo L. Kornfeld, Group Vice President

Before joining ADP in 1973, Kornfeld was associated with the management consulting firm Cresap, McCormick and Paget, Inc., from 1956 to 1973. He is 52 years old.

Fred S. Lafer, Vice President, General Counsel, Secretary

He joined ADP in 1967 and is 47 years old.

Richard A. Patterson, Vice President, Finance

Prior to joining ADP in 1974, Patterson was Senior Partner and Partner-in-charge of the New York auditing department of Touche Ross & Company. Before joining Touche Ross in 1960, he served for three years in the U.S. Marine Corps as a First Lieutenant. Age 42, Patterson holds a B.A. and M.B.A. from the University of Michigan. He is also a certified public accountant.

John Mattei, Vice President, Marketing

Mattei is largely responsible for developing an effective marketing team. He was brought into ADP in 1964 with a mandate to build up the marketing force. He is 48 years old.

George D. Voss, Senior Vice President, Data Processing

Voss has been with ADP for over 15 years, and like Mattei, he had a key role in building the marketing team. He is age 44.

Henry C. Brate, Controller

Prior to joining ADP in 1972, Brate was Manager of Taxes and Insurance and then Assistant Treasurer with Interpace, a $225 million firm (sales) which engages in the manufacture of construction materials. Brate is 32 years old.

Members of the Board not employed by ADP include:

Edwin D. Etherington, Director of various corporations

Harvey M. Krueger, Partner, Kuhn, Loeb & Co., investment bankers

Walter T. Margetts, Jr., President and Treasurer, Hudson & Manhattan Corp.

William H. Spitalny, President, Independent Printing Co., Inc., subsidiary of ADP

Laurence A. Tisch, Chairman of the Board and Chief Executive Officer, Loews Corporation

FINANCIAL RATIOS AND HIGHLIGHTS:

Financial Ratios		FY 1975
Return on Investment	Net Income / Total Assets	13.1%
Return on Total Equity	Net Income / Shareholder's Equity	17.3%
Gross Margin	Income Before Taxes / Revenue	17.6%
Debt/Equity Ratio:		1:20
Stock Price Range for 1975:[1]		20 3/4-61 1/2
Shares Outstanding:		6,987,000
Price Earnings Ratio, based on low bid:	Stock Price / Earnings Per Share	10.5
Price Earnings Ratio, based on high bid:		31:1
Earnings Per Share (primary)		$ 1.98
Cash Dividends Per Share		$ .20

Financial Data	FY 1975
Net Worth (Shareholder's equity)	$80,235,000
Working Capital	$34,751,000
Income Before Taxes	$27,181,000
Net Income	$13,848,000
Current Assets	$53,118,000
Current Liabilities	$18,367,000

1. ADP is traded on the New York Stock Exchange, symbol AUD. On June 30, 1976 the stock closed at 67½.

ADP INCOME STATEMENT

FY 1971 TO 1975

STATEMENT OF CONSOLIDATED INCOME

	1975	1974	1973	1972	1971
Revenues	$154,682,000	$122,783,000	$98,055,000	$76,626,000	$56,404,000
Operating expenses	84,440,000	65,565,000	55,058,000	45,240,000	36,465,000
General, administrative and selling expenses	31,020,000	24,649,000	17,784,000	14,007,000	10,069,000
Systems development and programming costs	5,319,000	4,916,000	4,366,000	2,561,000	2,256,000
Interest expense	580,000	460,000	453,000	565,000	433,000
Depreciation and amortization	6,142,000	4,393,000	2,914,000	1,831,000	1,313,000
	127,501,000	99,983,000	80,575,000	64,204,000	50,536,000
Earnings before income taxes	27,181,000	22,800,000	17,480,000	12,422,000	5,868,000
Provision for income taxes	13,333,000	11,305,000	8,548,000	6,645,000	4,160,000
Earnings from continuing operations	13,848,000	11,495,000	8,932,000	5,777,000	1,708,000
Discontinued operations (CCN)*	--	--	--	--	(234,000)
Earnings before extraordinary items	13,848,000	11,495,000	8,932,000	5,777,000	1,474,000
Extraordinary items	--	--	433,000	232,000	653,000
Net earnings	$ 13,848,000	$ 11,495,000	$ 9,365,000	$ 6,009,000	$ 2,127,000
Earnings per share					
Primary:					
Continuing operations	$1.98	$1.66	$1.31	$ .87	$ .27
Discontinued operations (CCN)*	--	--	--	--	(.04)
Extraordinary items	--	--	.06	.03	.10
Net earnings	$1.98	$1.66	$1.37	$ .90	$ .33
Average number of common shares outstanding	6,987,000	6,937,000	6,815,000	6,669,000	6,436,000
Fully diluted:					
Continuing operations	$1.92			$ .85	$ .26
Discontinued operations (CCN)*	--			--	(.04)
Extraordinary items	--			.03	.10
Net earnings	$1.92			$ .88	$ .32
Average number of common and common equivalent shares outstanding	7,231,000			6,853,000	6,638,000
Cash dividends per share (no dividends paid prior to 1974)	$ .20	$ .10			

* Transactions of Computer Communications Network, Inc., referred to above as CCN

EXPENSE AND PERSONNEL DISTRIBUTION BY FUNCTION:

ADP Operating Expense Distribution by Function for FY 1975 E		
Function	FY 1975	
	$ Millions	Percent
Marketing	33.2	26.0%
Administration	20.1	15.8%
Research and Administration	5.3	4.2%
Operations	68.9	54.0%
TOTAL	$127.5	100%

COMMENTARY:

Acquisitions a key element in expansion, diversification

About the time ADP first embarked upon its acquisition campaign between 1962 and 1975, revenues have increased over 50% annually. This rapid growth can be attributed largely to acquisitions.

An analysis of recent acquisitions would suggest that they will account for a lesser portion of ADP's growth than in the past. The table on the next page shows annual revenues for acquisitions made during the past year and projects them for 1976 and 1977.

ADP Acquisition Analysis

Date	Firm	Annual Revenues for fiscal year		
		1975	1976 E	1977 E
Jun 75	Cyphernetics	$16,200,000	$21,000,000	$27,000,000
Oct 75	Financial Computer Services	N/A	2,000,000	3,600,000
Mar 76	PCS Data Processing	N/A	300,000	1,000,000
Apr 76	Delos	N/A	2,000,000	7,500,000
Apr 76	Systems S.A.	N/A	700,000	800,000
Apr 76	Information Sciences, Inc.	N/A	140,000	500,000
Total from Acquisitions		$16,200,000	$26,140,000	$40,400,000
Total after Acquisitions		$154,700,000	$188,000,000	$230,500,000
Total before Acquisitions		$138,500,000	$161,860,000	$190,100,000
Projected annual gain:				
Acquisitions included			21.5%	22.6%
Acquisitions excluded			16.7%	17.4%

Based on this forecast and analysis, acquisitions made in the past fiscal year will contribute from 21% to 23% in annual growth. This is just moderately above the 17% annual growth projected without acquisitions. Earlier acquisitions have contributed from 25% to nearly 40%. While this analysis presents only approximate figures, it does indicate that contribution of acquisitions to ADP's growth rate will be farily modest in the future, and more in line with the internal growth rate of the firm. This, coupled with the firm's large existing revenue base justify a projected average annual growth for the next five years of 15%-18%. This is still a very solid rate of growth for a company the size of ADP. Internal expansion of new and existing product lines will make larger contributions to growth.

It should be noted that during the past year ADP also divested of two operations, which had served to lower the average of growth without acquisitions. These were:

- Science & Medicine Publishing Company, which was sold in mid-May, 1976 to Harcourt, Brace, Jovanovich Inc.

- a portion of the hospital data processing services division which was sold to Pentamation Enterprises, Inc. of Bethlehem, Pennsylvania. This was done because marketing called for larger, non-profit community hospitals, which was incompatible with ADP's marketing strategy to focus upon smaller hospitals and nursing homes.

Shortly after consummation of the Delos acquisition, ADP may also divest of that firm's unprofitable U.S. operation. Delos, like many more recent acquisitions has provided geographic expansion abroad, particulary into Europe.

Growth through Minicomputers and Banks

ADP has taken a "join them rather than lick them" approach to what it regards to be its most direct sources of competition: in-house minicomputers and banks. ADP has already begun leasing minicomputer systems to its Dealer Services Division customers. Some 25 to 30 minicomputers, with leases valued at nearly $100,000 have already been sold and successfully installed. The Reality System, manufactured by Microdata, Inc. in Irvine California is being used for this purpose. ADP requires a five to seven year non-cancellable lease for the minicomputer software, which is expected to generate up to $10,000 per year per customer. In addition, ADP's Commercial Services Division has also developed minicomputer and turnkey systems for inventory and accounting applications for distribution industry customers. Use of minicomputers for cross-industry applications which ADP has traditionally batch processed opens an enormous potential market for the firm. It addition, ADP is now equipped to meet minicomputer competition head-on by offering its own mini and a link to the ADP network as well.

ADP's future and continues success will depend heavily on both the minicomputer systems, network services offerings and the ability to integrate these lines of business with the firm's traditional batch-processed accounting-oriented applications.

Some 500 banks have subcontracted the job of processing customer services to ADP. Among these services are bank-customer payrolls. Initially banks resisted payroll processing services by an outside supplier, but several learned that in view of crucial deadlines, payroll processing was difficult and costly. ADP has acquired the payroll operations of First National City Bank, and is approaching the acquisition of a few more such operations. ADP also has a marketing agreement with Marine Midland Bank whereby the bank will market to its customers services provided by ADP.

While ADP has been expanding into turnkey, network and banking industry markets, its batch payroll processing operations have been benefiting from the increasing number of people returning to work. Also, some 40,000 customers and $3,000 average annual revenues generated by each provide a broad, stable client base for ADP. These factors should contribute to FY 1976 revenues of $188,000,000 and corporate pre-tax income of 27%-29%.

One of the potential problems that could affect ADP's growth in revenues and sales is organizational problems. Potential marketing conflicts may occur as a result of combining several 'autonomous' groups into a relatively large corporation with overlapping, if not conflicting, goals and market coverage.

Dropped

COMPANY HIGHLIGHT

AUTO TELL SERVICES, INC.
771 East Lancaster Avenue
Villanova, PA 19085
(215) 525-9526

Guy E. Warner, President
Private corporation
Total employees: 44
Total revenues, fiscal year end
9/30/77: $2,300,000

THE COMPANY

- Auto Tell Services, Inc. (ATS) was incorporated in 1968 in the state of Pennsylvania. It specializes in providing processing services, both batch and remote computing, to automobile dealers.

- Revenues for fiscal 1978 are expected to exceed 1977 by some 15%, rising to $2.65 million. Since fiscal 1975, revenues have risen by 19% annually, from $1.62 million to the current $2.3 million for 1977. Management claims that Auto Tell is profitable.

- The company's 44 employees are distributed as follows:

-	Market and sales	10
-	Customer support and software development	7
-	Computer operations (including keypunch operators)	18
-	General and administrative	9
		44 people

KEY PRODUCTS AND SERVICES

- All of ATS's fiscal 1977 revenues are derived from processing services. Batch processing accounted for 70% of revenues, remote computing the remaining 30%. Remote computing revenues can be further broken down approximately as follows:

-	Remote batch	54%
-	Interactive	31
-	Inquiry/response	15
		100%

- The company offers four major services: Sales/Dealership, Accounting Service Followup, Parts Inventory Control, and Lease Accounting.

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- ATS Dealership Accounting/Service Followup presents daily, monthly, and annual books of record and financial results, including:

  - Integrated accounting service
  - Daily operating control report by department
  - Error correction (on-line)
  - Profit and loss statement
  - Trial balance, schedules and adjusted general ledger on daily basis or as requested
  - Daily journals and summaries
  - Payroll on request
  - Various management reports on request

- ATS Parts Inventory Control presents the financial position of an automobile dealer parts department.

  - In addition to parts transactions listings, standard reports include:
    - Suggested stock order
    - Back order report
    - Special order report
    - Oversold report
    - Removed and deleted report
    - Zero stock report
  - Additional reports include:
    - Wholesale compensation
    - Wins
    - Popp
    - 90-day returns
    - Inactive parts
    - Transaction register
    - Complete set of bin labels
    - Obsolescence return
  - The weekly Counter Report, for use by the parts department, shows pricing, inventory balances, number changes, and bin location.

- ATS Lease Accounting Service provides information on maintenance, insurance, depreciation, interest, etc. Customers are provided with two major types of information: lease description and lease accounting.

  - The lease description data section consists of name of lessee, address, insurance company and agent, serial number and description, term of lease, driver's name, license number and state, insurance term, etc.
  - The lease historical accounting data section includes lease-to-date income, expenses, notes payable, etc.
    - Informational
    - Insurance expiration report

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- Lease expiration report
- Unit license expiration report
- Unit number to unit license number
- Other cross-reference reports

- ATS Sales/Service Customer Retention Service provides sales and service followup.
  - The sales followup segment provides salespersons with prompters on which to contact customers personally, in a timely manner.
  - The service followup segment provides service reminders, mailing labels for active customers and sales prospects, and warranty information.

- Management plans to introduce turnkey systems to auto dealers during early 1979. Accounting applications software is currently under development.

APPLICATIONS All ATS revenues are generated by industry specialty applications to auto dealerships. These consist mostly of parts inventory control, sales and service merchandising, and general accounting.

INDUSTRY MARKETS All ATS revenues are derived from automobile dealerships, such as Chevrolet, part of the retail distribution industry.

GEOGRAPHIC MARKETS One hundred percent of ATS revenues are derived from within the United States, primarily the Eastern and Southern regions, as shown below:

- Middle Atlantic states (primarily Pennsylvania	80%
- South Atlantic states (primarily the Carolinas and Florida)	15
- New England states	5
	100%

COMPUTER HARDWARE AND SOFTWARE

- ATS uses the following computer equipment and operating systems:
  - One Honeywell 1250, running under OS 2000, is on-line and used mostly for inventory control.
  - Two Bunker Ramo 1028s are batch oriented and are used primarily for accounting applications.

- Turnkey systems, to be introduced during the early part of 1979, will utilize the Texas Instrument 990.

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INPUT®

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

August 1996

Auto-trol Technology Corporation

Chairman & President: Howard B. Hillman
12500 North Washington Street
Denver, CO 80241-2400
Phone: (303) 452-4919
Fax: (303) 252-2249
Internet: http://www.auto-trol.com

Status:	Public
Employees:	353 (9/95)
Revenue:	$25,591,000
Fiscal Year End:	9/30/95

Key Points

- Auto-trol Technology Corporation provides software systems integration and consulting services, specializing in graphics-oriented applications for computer-aided design, manufacturing, and engineering (CAD/CAM/CAE).
- In June 1995, Auto-trol acquired Metaware, Inc., doing business as Centra 2000, Inc., including the company's CENTRA 2000™ system.
- The effects of declining margins on hardware sales and the lack of revenue growth from products in development have had a negative impact on revenue and net income for the past seven years. During fiscal 1995, Auto-trol implemented various cost-containment efforts to streamline both domestic and international operations, including a 7% reduction in personnel.

Company Description

Auto-trol, founded in 1962, develops, integrates, markets, sells, and supports products for end-user markets involved in product data management, physical network management, mapping, technical illustration, design, engineering, drafting, and manufacturing processes.

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Traditionally, Auto-trol sold proprietary hardware; however, reduced margins on hardware products have led the company to refocus sales and support from hardware to internally developed software and systems integration. The company continues to sell hardware, primarily as part of a total systems solution.

Though Auto-trol is a public company, it is very tightly held, as approximately 97% of Auto-trol's stock is held by the company's President and Chairman of the Board, Howard B. Hillman, and the Hillman family trust.

Organization and Structure

Headquartered in Denver (CO), Auto-trol has offices in the metropolitan areas of Charlotte (NC), Chicago (IL), Denver (CO), Detroit (MI), Houston (TX), Irvine and San Francisco (CA), McLean (VA), Orlando (FL), Parsippany (NJ), and Rochester (NY).

Auto-trol's U.S. subsidiaries include Auto-trol International Corporation, AT Development Inc., Auto-trol Advertising, Inc., and Auto-trol Technology Ltd. (Canada).

The company also has international subsidiaries in Germany, Sweden, and the U.K., with one branch location in Australia.

The company also has a network of independent distributors and sales agents in several international locations.

Company Strategy

Auto-trol's strategy is to compete on the basis of quality and technical expertise. The company believes that the functionality of its applications products, technical support, and responsiveness to customer needs enhances its competitive position. Although price is a competitive factor, Auto-trol believes that customers value product functionality and service above cost.

Auto-trol believes its products to be functionally competitive. However, in 1995 it lowered the prices on its PDM and network configuration products to increase their competitiveness.

Auto-trol believes that by offering customers a broad range of applications and options, from analysis through implementation and ongoing support, it is able to develop long-term relationships with its customers and expand into new markets.

During 1995 Auto-trol continued to shift its sales toward internally developed software and system integration services to fight declining margins from hardware sales. To support these efforts, the company has been increasing investment in research and product development, including a 12% increase in spending in fiscal 1995.

In 1996, the company is continuing to increase investment in new product technology in the product data management (PDM), network configuration, and manufacturing computer-aided design (M-CAD) markets.

Financials

Auto-trol's fiscal 1995 revenue was $25.6 million, a decrease of 27% over revenue of $35.0 million in fiscal 1994. A net loss of $10.8 million was incurred in fiscal 1995, as compared to losses of $6.5 million the previous year.

A five-year financial summary is shown on the following page.

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Auto-trol Technology Corporation
Five-Year Financial Summary
($ Millions, except per-share data)

	Fiscal Year				
Item	9/95	9/94(a)	9/93	9/92	9/91
Revenue	$25.6	$35.0	$38.3	$58.9	$64.4
• Percent change from previous year	(27%)	(9%)	(35%)	(13%)	(31%)
Loss before taxes	$(10.7)	$(7.1)	$(10.5)	$(9.1)	$(8.0)
• Percent change from previous year	(51%)	32%	(15%)	(14%)	(627%)
Net loss	$(10.8)	$(6.7)	$(10.5)	$(9.1)	$(7.9)
• Percent change from previous year	(61%)	36%	(15%)	(15%)	(508%)
Loss per share	$(0.35)	$(0.35)	$(1.05)	$(1.36)	$(1.17)
• Percent change from previous year	-----	67%	23%	(16%)	(516%)

(a) Figures for fiscal 1994 are restated to reflect the acquisition of Metaware, Inc. in June 1995.

Management attributed fiscal 1995 losses to the following:

- Declining sales of products based on the Series 5000 and 7000 platforms, due to less expensive alternative products on the personal computer platform, which continue to erode Auto-trol's installed base of UNIX design and drafting products

- Operating losses due primarily to the lack of revenue growth from products in development in the M-CAD, PDM, and network configuration markets

Research and development expenditures were approximately $8.8 million (35% of revenue) in fiscal 1995, compared to $7.9 million (23% of revenue) in fiscal 1994, and $8.3 million (22% of revenue) in fiscal 1993.

Revenue Analysis by Product/Service

Approximately $10.8 million (42% of revenue) of Auto-trol's fiscal 1995 revenue was derived from hardware and software sales, a decrease of 34% from the previous year.

A three-year source of revenue summary is shown on the following page.

In fiscal 1995, total revenue was derived approximately as follows:

Software sales	23%
Hardware sales	19%
Customer support	43%
Educational services	7%
Consulting services	8%
	100%

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Auto-trol Technology Corporation
Three-Year Source of Revenue Summary
($ Millions)

	Fiscal Year					
	9/95		9/94(a)		9/93	
Product/Service	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Sales	$10.8	42%	$16.4	47%	$15.9	42%
Services	14.8	58%	18.6	53%	22.4	58%
Total	$25.6	100%	$35.0	100%	$38.3	100%

(a) Figures for fiscal 1994 are restated to reflect the acquisition of Metaware, Inc. in June 1995.

- Total software revenue declined $3.0 million (33%) compared to fiscal 1994, as a result of reduced sales of the products based on the Series 5000 and 7000 platforms.

- Total hardware revenue fell $2.7 million (36%) compared to fiscal 1994, as the company continued to shift emphasis away from hardware sales and support.

- International sales declined $1.8 million (20%). International hardware sales decreased $1.9 million while international software sales revenue increased $82,000 (3%).

- Domestic hardware sales decreased $1.5 million (57%) in fiscal 1995 and domestic software sales fell $2.3 million (46%).

Interim Results

Revenue for the nine-month period ending June 30, 1996 was $16.7 million, a 16% decrease over revenue of $20.0 million for the same period the previous year. Net losses for the period grew 12%, from $7.6 million to $8.5 million.

- Total sales revenue decreased 11% for the period due to a 4% decline in software revenue and a 19% decline in hardware revenue.

- The decline in revenue was attributed to reduced sales of some of the company's mature products offset by revenue growth in the PDM and network configuration markets.

- Total services revenue fell 21% for the period due to a 48% decline in hardware maintenance revenue, a 19% reduction in software maintenance revenue, and a 3% decrease in billable services and training.

- Research and development expenses were approximately 41% of revenue for the period, compared to 32% the prior year. The increase was due in part to a 6% increase in spending, coupled with the overall 16% decrease in total revenue, and the restatement of figures to reflect the acquisition of Centra 2000, Inc. in June 1995.

Market Financials

Auto-trol markets its products and services primarily to the petroleum, pharmaceutical, chemical, manufacturing, engineering, and public utility industries.

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The company also markets to federal, state, and municipal government agencies.

Geographic Markets

Approximately 44% of total revenue was derived from the U.S. in fiscal 1995, and the remaining 56% from international sources. In fiscal years 1994 and 1993, approximately 46% of revenue was derived from international sources.

A three-year geographic source of revenue summary follows:

Auto-trol Technology Corporation
Three-Year Geographic Source of Revenue Summary
($ Millions)

	Fiscal Year					
	9/95		9/94		9/93	
Geographic Market	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
U.S.	$11.3	44%	$18.8	54%	$20.7	54%
Europe	7.2	28%	7.6	22%	9.6	25%
Canada	6.0	24%	8.2	23%	7.3	19%
Other international	1.1	4%	0.6	1%	0.8	2%
Total	$25.6	100%	$35.0	100%	$38.3	100%

Acquisitions

In June 1995, AT Development Inc., a wholly owned subsidiary of Auto-trol, acquired a 100% interest in Metaware, Inc., doing business as Centra 2000, Inc., for 1.2 million shares of Auto-trol common stock.

- Auto-trol exchanged four shares of common stock for each share of Centra 2000 common stock outstanding.
- Existing Centra 2000, Inc. shareholders also received a cash bonus and additional Auto-trol stock in each of the next four years. Receipt of the stock is contingent upon meeting a development schedule and market acceptance of the Centra 2000 product.
- Acquired in the transaction was the CENTRA 2000 system, a product data management, document management, and workflow system.

Employees

As of September 30, 1995, Auto-trol had 353 employees, segmented as follows:

Marketing	17
Sales and support	87
Customer support	42
Research and development	142
Administrative support	65
	353

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Key Products and Services

Software

CENTRA 2000™ system—A product data management, document management, and workflow system that is specifically designed for engineering, manufacturing, technical publishing, petrochemical, and other operations

- CENTRA 2000 is intended for scaleable implementation from the workgroup to the entire enterprise.
- This system manages the pure data environment, audio/video, and large document assemblies, in addition to traditional product data management functions.
- The core CENTRA 2000 technology was used to develop the NASA Electronic Library System and to map and track the parts list for the space station.

KONFIG™—Advance software for physical network, cable/wire, and asset management of data, voice, or video networks

- KONFIG software stores and models the entire network infrastructure in Oracle's relational database management system, including both active elements such as workstations, hubs, routers, and switches, and passive elements such as cables, connectors, distribution frames, and patch panels.
- A graphical representation of the network can be automatically generated from the database and overlayed on a facility drawing.

Mozaic™—A suite of software applications to take a product from conceptual design through the manufacturing and assembly processes. The basic Mozaic product includes the following modules:

- Mozaic Assembly allows the user to perform "top down" or "bottom up" assembly modeling, using solid and/or surface models.
- Mozaic Modeler provides a set of tools to perform conceptual and detail design work.
- Mozaic Drafter provides 2-D drafting capabilities.
- Optional modules include Mozaic Surfacing, Mozaic manufacturing, and gateways.

Series 5000™—Auto-trol's flagship product is a graphics design platform consisting of graphics tools, macro languages, and a relational database query language.

- Series 5000 is primarily used in the architectural, engineering, and construction industries.
- Series 5000 also has a set of accompanying products such as data converters, plotter drivers, and application-specific tools.

Series 7000™ system—A suite of graphics products used to design and document mechanical parts and assemblies

- Series 7000 system is primarily used by manufacturing companies.
- The system is used for 3-D part design, the creation of numerical control machining programs, and the engineering analysis of mechanical parts and assemblies.

Tech Illustrator™—Consists of Auto-trol's Electronic Publishing Solutions (EPS) family, a suite of application and converter products

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- The EPS product line enables compliance with military and commercial standards for publishing operations.

- EPS provides access to a range of reference material ranging from legacy hard copy and electronic archives to current digital 3-D design data, for use in creating illustration views.

Geostation® GIS—An integrated exploration data management and mapping software product

- Geostation is used as a subsurface exploration tool in oil and gas exploration, and for assessment of mineral rights associated with land.

- Geostation is also used in the mapping and cartography industry.

Hardware

Auto-trol integrates hardware from suppliers, including Hewlett-Packard and Sun Microsystems, Inc.

Services

Consulting services—Services include software and hardware needs assessments, system configuration and implementation of products, third-party integration, and system customization.

The company also occasionally develops custom software or modifies its existing software products for specific customer needs. This service is sold in conjunction with product sales.

Educational services—Product training programs are offered for Auto-trol's applications. The company also provides certified HP and Sun Microsystems training.

Technical support—Service is provided by Auto-trol field engineers from locations across the U.S. and through the company's international subsidiaries and distributors, all of which provide installation, preventive maintenance, repair service, and assistance in solving customer operating problems. In addition, a technical support staff located in Denver is available to assist in servicing customers' systems.

Marketing and Sales

Auto-trol markets and sells its products and services in the U.S. via a direct sales force, through 12 sales offices.

Products are marketed in Europe through wholly owned subsidiaries with offices located in Germany, Sweden, and the U.K.

The company markets its product in Canada through a wholly owned subsidiary, Auto-trol Technology (Canada) Ltd., and in Australia through a company sales office.

Export sales to South America and the Pacific Rim countries are handled by independent distributors.

Competition

Auto-trol's primary competitors include the following:

Product data management—Sherpa Corporation, Xerox/Documentum, Workgroup Technologies, and Structural Dynamic Research Company

Process industry and technical illustration—Intergraph, Inc.

Physical electronic network—Cambio, Visionel, and Accugraph Corporation

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Manufacturing and computer-aided design—Parametric Technology Corporation, Structural Dynamic Research Company, and Computervision Corporation

INPUT Assessment

Auto-trol has traditionally focused on providing high-quality products, and has not competed on the basis of price. However, in order to return to profitability, the company must reduce manufacturing costs sufficiently to be able to offer its quality products at competitive prices.

With increased levels of research and development spending, the company is continuing its efforts to replace mature products that have waning revenue and regain a competitive postion in the marketplace.

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INPUT

COMPANY
PROFILE

AUTO-TROL TECHNOLOGY CORPORATION
12500 North Washington Street
Denver, CO 80241-2400
Phone: (303) 452-4919
Fax: (303) 252-2249

Chairman, President, and CEO:	Howard B. Hillman
Status:	Public Corporation
Stock Exchange:	NASDAQ
Total Employees:	585 (9/92)
Total Revenue:	$58,900,000
Fiscal Year End:	9/30/92

Key Points

- Auto-trol believes that it has been one of very few companies to develop CAD/CAM/CAE software in an open architecture environment across several vendors' platforms and to integrate these with state of the market peripheral technologies.

- Auto-trol has implemented its strategic plan to move all its applications to UNIX-based platforms. Beginning June 1993, Auto-trol moved all its VMS products to mature status and Auto-trol applications will not be supported on releases of VMS after Release 5.5.

- Declining margins from hardware sales have led Auto-trol to change its traditional marketing strategy from turnkey systems to systems integration and partnering with its customers to help them determine the best technical solution to their problems, regardless of source.

- Effects of the recession and costs associated with migrating from being a systems provider to selling integration services has had a negative impact on revenue and net income. During fiscal 1993, Auto-trol has implemented various cost containment efforts, including a 10% reduction of U.S. personnel.

- In spite of promising prospects for new business, revenue for the nine months ending June 30, 1993 was $28.9 million, down 36% from the same period in 1992, and net losses increased 32% to over $9 million.

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Company Description

Auto-trol, founded in 1962, provides systems integration services associated with the development, marketing, and support of computer-aided design, manufacturing, and engineering (CAD/CAM/CAE) turnkey systems for technical information management, electronic publishing, process plant design and manufacturing, office and industrial facilities, mechanical engineering, civil engineering, and mapping.

Strategy

Auto-trol continues to emphasize its position as a systems integrator and provider of support services within the technical marketplace, in addition to its continuing thrust as a software developer and value-added reseller.

The company now offers a range of services including on-site audits, scanning, data base conversion, software development and customization, and system analysis services (consulting, integration, and implementation). Expansion in systems integration is expected to continue in the future.

Financials

Auto-trol's fiscal 1992 revenue was $58.9 million, a 13% decrease from fiscal 1991 revenue of $64.4 million. Net losses were $9.1 million, compared to $7.9 million a year ago. A five-year financial summary follows:

AUTO-TROL TECHNOLOGY CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	9/92	9/91	9/90	9/89	9/88
Revenue	$58.9	$64.4	$79.5	$77.4	$78.2
· Percent change from previous year	(13%)	(31%)	3%	(1%)	*
Income (loss) before taxes	$(9.1)	$(8.0)	$(1.1)	$(2.4)	$2.3
· Percent change from previous year	(14%)	(627%)	54%	(203%)	*
Net income (loss)	$(9.1)	$(7.9)	$(1.3)	$(2.4)	$2.1
· Percent change from previous year	(15%)	(508%)	46%	(214%)	*
Earnings (loss) per share	$(1.36)	$(1.17)	$(0.19)	$(0.36)	$0.32
· Percent change from previous year	(16%)	(516%)	47%	(213%)	*

* *Results not comparable with previous periods due to a change in the fiscal year end from December 31 to September 30.*

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Fiscal 1992 results were attributed to the following:

- Every geographic area of Auto-trol's operations except Europe experienced a decrease in sales in fiscal 1992 compared to fiscal 1991. Domestic operations showed the largest dollar value and percentage decline at nearly 22%.

- The transition from primarily selling products (hardware and software) to selling integration services has been difficult due to:

  - Hesitancy of customers to purchase services during the recession, including domestic customers in industries severely impacted by the recession

  - Costs associated with transition to selling services, including retraining existing employees and recruiting new employees

- During the third quarter of fiscal 1992, a contract with Parametric Technology Corporation permitting Auto-trol to resell Parametric's product line was cancelled. This cancellation had an adverse effect primarily on European operations.

Research and development expenditures were approximately $10.1 million (17% of revenue) in fiscal 1992, $9.7 million (15% of revenue) in fiscal 1991, and $8.4 million (11% of revenue) in fiscal 1990.

Revenue for the nine months ending June 30, 1993 was $28.9 million, down 36% from the same period in 1992 and net losses increased 32% to over $9 million. Results were attributed to the continuing economic situation and delayed new orders.

Market Financials

Auto-trol's customers include petroleum, pharmaceutical, and chemical companies; architectural and engineering firms; construction contractors; aerospace companies; federal, state, and municipal governments; retail merchandisers; public utilities; and manufacturers of a range of industrial and consumer products.

Approximately 53% of Auto-trol's fiscal 1992 revenue was derived from hardware and software/turnkey system sales and 47% from related support services. A three-year source of revenue summary follows:

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AUTO-TROL TECHNOLOGY CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/92		9/91		9/90	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Sales	$31.0	53%	$35.8	56%	$56.1	71%
Service	27.9	47%	28.6	44%	23.3	29%
TOTAL	**$58.9**	**100%**	**$64.4**	**100%**	**$79.4**	**100%**

Geographic Markets

A three-year financial summary segmented by geographic markets follows:

AUTO-TROL TECHNOLOGY CORPORATION
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/92		9/91		9/90	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$32.2	55%	$39.0	61%	$52.5	66%
Europe	17.2	29%	13.2	20%	14.1	18%
Canada	8.3	14%	10.5	16%	10.4	13%
Other	1.2	2%	1.7	3%	2.4	3%
TOTAL	**$58.9**	**100%**	**$64.4**	**100%**	**$79.4**	**100%**

Employees

As of September 1992, Auto-trol had 585 employees, of which 164 were engaged in research and development and 110 in systems support and integration activities.

The company currently has 460 employees.

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Key Products and Services

Auto-trol's systems include standard hardware, operating software, proprietary graphics software, and applications software for process plant design, civil engineering, discrete manufacturing, facilities layout and design, mechanical design, technical publishing, technical information management, and network configuration management.

- In the facilities market, Auto-trol helps customers to plan, design, document, and manage both commercial and industrial facilities using an integrated data base approach. Facilities products are used for layout of electrical heating, ventilating, air conditioning, and furniture.

- Industrial plant and process plant applications may be used to design and visualize an entire plant system of piping, pipe routing, vessels, structural steel and equipment.

- Civil engineering, mapping, or GIS products are used for projects ranging from highway development to complete airport design, construction, surface mining, and landfill operations.

- Graphics systems for technical publishing are used by customers in the aerospace, manufacturing, automotive, and defense industries. Tools help professional illustrators to create complex graphics for technical manuals, documentation, and presentations.

- For mechanical design and manufacturing, Auto-trol software helps manufacturers automate the entire product cycle from concept through production. Programs are available for developing three-dimensional product models including wireframe, surface and solid modeling capabilities, analysis tools, and drawing production. Complete numerical control programming for lathe, wire electronic discharge machining, sheet metal punching, milling and flame cutting applications are provided. For specialized part fabrication processes, Auto-trol offers automatic nesting for plate manufacturers and progressive die software for tool and die designers.

- For the technical document management market combine proprietary and third party software for capturing, editing, managing, distributing, and storing drawings and documents. These products, together with Auto-trol's scanning, data base design and integration services, provide tools to automate the information flow across multi-departmental environments.

- Auto-trol also offers KONFIG, a product for network configuration management that manages the physical and electronic aspects of a network by providing constant and accurate network representations through graphical and data base tools.

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- Auto-trol currently has over 900 customers with over 3,500 workstations installed in 10 countries worldwide.

Auto-trol systems support Auto-trol Series 5000 Advanced Graphics Software for the architecture/engineering/construction (AEC) and technical publications markets, and Auto-trol Series 7000 Advanced Graphics Software for the mechanical design market.

Auto-trol systems are available for HP-UX, SunOS, DEC ULTRIX, or IBM RS/6000 (Series 5000 only) platforms and can operate either as a standalone system or in an interactive network of autonomous workstations.

- Auto-trol provides interfaces for its systems to various peripheral devices including plotters, digitizers, hard copy units, paper tape reader punches, word processors, pagination systems, phototypesetters, laser printers, scanners, vectorizers, and color film recorders.

- For graphics exchange requirements, Auto-trol supports IGES and AutoCAD™ DXF, as well as CALS-compliant data interchange interfaces to meet Department of Defense specifications (for both graphics and text).

A summary of Auto-trol's major graphics and application software products is shown in the exhibit.

Customer support/maintenance services are provided by Auto-trol as follows:

- Maintenance service is provided under warranties, service contracts, or on a time-and-material basis.

- Service is provided by Auto-trol field engineers from locations across the U.S. and through the company's international subsidiaries and distributors, all of which provide installation, preventive maintenance, repair service, and assistance in solving customer operating problems. In addition, a technical support staff located in Denver is available to assist in servicing customer's systems.

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EXHIBIT

AUTO-TROL SOFTWARE PRODUCTS

Product	Description
BUILDING DESIGN AND FACILITIES SOFTWARE	
- FACILITY LAYOUT/OFFICE	Facility and furniture tracking system for planning, designing, and managing office facilities
- JazzLine Drafting	Drafting tool
- JazzLine Architecture	Architectural system for floor and ceiling plan generation and producing furniture and equipment layouts
- FACILITY LAYOUT/INDUSTRIAL	Facilities and equipment tracking system for planning, designing, and managing industrial plants
- GENERAL DRAFTING INTERFACE	General drafting package with on-screen user interface
- STEEL-3D	Graphic and design system for 2- and 3-dimensional frame structures
- A-FRAME	Drafting system for framing drawings for structural buildings
- ELECTRICAL	Design and drawing system for light fixtures, circuit wiring, and power and communications centers
- HVAC	Drafting system for creating heating, ventilating, and air conditioning plans and drawings
- VECTORPIPE	Piping model design, modification, and management with relational data base
- CONTROL SCHEMATICS	Electrical relay diagram generator
- DUCTWORK DESIGN	System for design, analysis, and generation of ductwork models
- BASIS	Base map generation and locational conversion system
- ISOGEN	Piping system that descales/dimensions isometric drawings
- FLOWS	Mean Value Analysis (MVA) method for modeling manufacturing or service systems
- KONFIG	Configuration management of complex, multivendor local-area networks (LANs)
- INTELLIGENT P&ID	Specification-driven process and instrument diagrams with relational data base management system
- EMPRESS	Relational data base management system with interface to Auto-trol's graphics system
CIVIL ENGINEERING SOFTWARE	
- MOSS	Strings-based, three-dimensional surface modeling system
CORPORATE PUBLISHING SOFTWARE	
- TECH ILLUSTRATOR	Drawing tools for technical illustration for low-cost monochrome workstations
- TECH ILLUSTRATOR+PLUS	Drawing tools for technical illustration, including raster and on-screen digitizing
- TECH IMAGE	Fully integrated raster editor for capturing and editing existing illustration files and digital raster data bases
- Various interfaces	

(continued)

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EXHIBIT

AUTO-TROL SOFTWARE PRODUCTS
(continued)

Product	Description
MECHANICAL DESIGN AND MANUFACTURING SOFTWARE	
- FINITE ELEMENT MODELER (FEM)	Node and element generator
- FLAT PATTERN DEVELOPMENT	Interactive construction of a correctly dimensioned flat outline of a 3-dimensional model
- NUMERICAL CONTROL (NC)	Interactive system for 2, 2-1/2, 3, and 5 axis machining that performs automatic tool path generation and tool path editing
- NC PACKAGE	Combination of NC modules
- NC PUNCHING MODULE	Allows users to automatically program tool paths for NC punches
- NC LATHE MODULE	Lathe system
- NC PROFILE/POCKET MODULE	System to produce rough, semi-finish, and finish profile operations for machining
- NC SURFACE MILLING MODULE	Advanced surface milling
- NC EDM MODULE	Two or four axis profile and tilt operation
- NC FLAME CUTTING MODULE	Flame tool path generator
- SERIES 7000 GRAPHICS SOFTWARE	Menu-driven 3-dimensional geometric modeling system
- ANALYSIS	Two- and three-dimensional mechanical property calculator
- SURFACE MODELING	Creates surface models from wireframes
- DIE DESIGN	Interactive system to design piercing, blanking, blending, compound, and progressive dies
- BEZIER MODELING	Bezier curve and surface modeling system
- INTERACTIVE NESTING	Two-dimensional sheet metal nesting program
- APPLICATION INTERFACE	Custom application programming interface
- EAGLE	High-level graphics programming language
- COMPACT II SOURCE GENERATOR	
- APT SOURCE GENERATOR	
- Various machine/controller postprocessors	
TECHNICAL INFORMATION MANAGEMENT (TIM) SOFTWARE	
- SCANNER SUBSYSTEM	Workstation-based engineering drawing and document scanning with raster edit and cleanup capabilities
- COMPOSITE IMAGE	Combines, manages, and edits raster images or combination raster/vector drawings
- PreVIEW	Distribution, viewing, and annotation of drawing files on PCs and workstations
- RASTER CONVERTORS	Complete set of converters for capturing and using common raster formats, including TIFF, GMF, RLC, and CCITT Group 4

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Marketing and Sales

Auto-trol markets its products directly to end users in the U.S. from offices in the metropolitan areas of Cambridge (MA), Charlotte (NC), Chicago (IL), Cleveland (OH), Denver (CO), Detroit (MI), Hartford (CT), Houston (TX), Irvine and San Francisco (CA), McLean (VA), Milwaukee (WI), Orlando (FL), Parsippany (NJ), and Rochester (NY).

The company markets its products in Canada through Auto-trol Technology Ltd., a wholly owned subsidiary, with offices in Calgary, Montreal, Ottawa, and Toronto.

Auto-trol also has international subsidiaries in Australia, France, Germany, Sweden, Switzerland, and the U.K..

Export sales outside Europe, Canada, and Australia are handled by independent distributors and sales agents located in several countries, including China, Greece, Korea, and Venezuela.

Competitors

Auto-trol's primary competitors both domestically and internationally are Computervision, IBM, Intergraph, Structural Dynamics Research Corporation (SDRC), Electronic Data Systems, Andersen Consulting, Ernst & Young, and Autodesk.

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AUTO-TROL TECHNOLOGY CORPORATION
12500 North Washington Street
Denver, CO 80241-2404
(303) 452-4919

Howard B. Hillman, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 691 (9/90)
Total Revenue, Fiscal Year End 9/30/90: $79,453,000

The Company

Auto-trol Technology Corporation, incorporated in 1962, has been engaged since 1973 in the development, marketing, and support of computer-aided design, drafting, and computer-aided manufacturing (CAD/CAM) turnkey systems for engineering, manufacturing, technical publishing, and information management applications.

Auto-trol is strenthening its position as a systems integrator and provider of support services, in addition to its continuing thrust as a software developer and value-added reseller.

AUTO-TROL TECHNOLOGY CORPORATION
FINANCIAL SUMMARY
($ millions, except per share data)

ITEM	FYE 9/30/90	FYE 9/30/89	FYE 9/30/88	Nine Months Ending 9/30/87	FYE 12/31/86
Revenue	$79.5	$77.4	$78.2	$53.8	$62.4
• Percent change from previous year	3%	(1%)	*	*	(5%)
Income (loss) before taxes and extraordinary credit	$(1.1)	$(2.4)	$2.3	$1.2	$(7.0)
• Percent change from previous year	54%	(203%)	*	*	30%
Net income (loss)	$(1.3)	$(2.4)	$2.1	$1.2	$(7.0)
• Percent change (decrease) from previous year	46%	(214%)	*	*	40%
Earnings (loss) per share	$(0.19)	$(0.36)	$0.32	$0.17	$(1.08)
• Percent change from previous year	47%	(213%)	*	*	56%

* *Results not comparable with previous periods.*

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Fiscal 1990 results were attributed to the following:

- Auto-trol's fiscal 1990 systems sales increased 3% over fiscal 1989 due primarily to a 22% increase in Canadian sales. Domestic system sales increased 4%, European sales decreased 6%, and sales from international distributors and the Australian sales office decreased over 18% from the previous year.

- Total maintenance services revenue increased 2% during fiscal 1990, with European service revenue increasing 27% and Canadian service revenue increasing 10%. Domestic service revenues decreased 3%.

- Auto-trol management attributes net losses to economic uncertainty and customer caution; a delay in completing the port of key applications software to UNIX; and conflicting strategies and product announcement delays by Auto-trol's hardware suppliers which led to uncertainty on the part of large installed customer bases.

Research and development expenditures were approximately $8.4 million (11% of revenue) in fiscal 1990, $8.2 million (11% of revenue) in fiscal 1989, and $8.2 million (10% of revenue) in fiscal 1988.

Revenue for the three months ending December 31, 1990 was $15.5 million, a 13% decrease from $17.8 million for the same period in 1989. Net losses were nearly $2.6 million, compared to net losses of $1.8 million for the same period a year ago.

As of September 1990, Auto-trol had 691 employees, of which 150 were engaged in research and development and 125 in systems support and integration activities. The company currently has 704 employees, of which 410 are located in Denver.

Auto-trol's primary competitors both domestically and internationally are Autodesk, Prime, IBM, Intergraph, and McDonnell Douglas.

Key Products and Services

Approximately 71% of Auto-trol's fiscal 1990 revenue was derived from turnkey system sales and 29% from turnkey-related services and parts. A three-year source of revenue summary follows:

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AUTO-TROL TECHNOLOGY CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/90		9/89		9/88	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Sales	$56.1	71%	$54.5	70%	$53.2	68%
Service	23.3	29%	22.9	30%	25.0	32%
TOTAL	**$79.4**	**100%**	**$77.4**	**100%**	**$78.2**	**100%**

Auto-trol turnkey systems integrate standard hardware, operating software, proprietary graphics software, and applications software for process plant design, civil applications including highway and large-scale public facilities, discrete manufacturing, facilities layout and design, mechanical design, and corporate and technical publishing.

- Auto-trol systems are used by architectural and engineering firms and similar departments within large corporations to prepare plans for office buildings, residential complexes, and industrial facilities.

- Plant design software is used by engineering and construction firms and by petrochemical operating companies to design new plants, laboratories, and offices and to prepare the documentation for plant modifications.

- Auto-trol systems are used by technical publishers to produce illustrations for proposals, presentations, engineering and manufacturing documentation, illustrated parts catalogs, and technical support manuals.

- Auto-trol systems are used by a wide range of manufacturing companies to design and document mechanical parts and products.

- Auto-trol currently has over 1,600 customers with over 6,000 workstations installed in 24 countries worldwide.

Since 1982, Auto-trol has positioned itself as a supplier of 32-bit engineering workstations with turnkey expertise in system integration within a distributed data processing environment. A heterogeneous local-area network (LAN) is available to provide

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communication pathways among all hardware platforms. Hardware components of Auto-trol systems include the following:

- The hardware platforms are based on HP/Apollo, DEC, and Sun systems in VMS, UNIX, or Domain environments and can operate either as a standalone system or in an interactive network of autonomous workstations.

- Auto-trol provides interfaces for its systems to various peripheral devices including plotters, digitizers, hard copy units, paper tape reader punches, word processors, pagination systems, phototypesetters, laser printers, scanners, vectorizers, and color film recorders.

- For graphics exchange requirements, Auto-trol supports IGES and AutoCAD™ DXF, as well as CALS-compliant data interchange interfaces to meet Department of Defense specifications (for both graphics and text).

Auto-trol systems support Auto-trol Series 5000 Advanced Graphics Software for the architecture/engineering/construction (AEC) and technical publications markets and Auto-trol Series 7000 Advanced Graphics Software for the mechanical design market.

For the AEC marketplace, Auto-trol offers systems for the design, documentation, and maintenance of both commercial and industrial facilities. These products are built on the Series 5000 Advanced Graphics Software and include products for site engineering, plant engineering and design, piping, and modeling.

- The software allows users to interact with the system by entering commands, graphic positions, dimensions, symbols, and text using screen menus, keyboards, mouses, digitizers, joy sticks, and other devices, thereby permitting users to rapidly create and revise three-dimensional graphic designs.

- Series 5000 provides an interactive macro language, Quick Actions, and macro programming facility to change an existing menu's layout, create new menus, modify button functionality, or add new capabilities and applications.

- Series 5000 can also directly communicate with external FORTRAN and C design and analysis programs, providing facilities for third-party software integration or access to external data.

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- Series 5000 supports the creation of associative data structures that can be accessed and manipulated as independent, discrete objects.

  - Object attributes can be stored and accessed locally or be managed in an adjoining relational data base management system (RDBMS).

  - If the RDBMS system is used, an interactive, integrated subset of the SQL (Structured Query Language) command interface is made available to the graphics user for purposes of object selection, ad hoc attribute querying, Quick Action data input, and report generation.

Auto-trol's graphics software for corporate publishing is used by customers in the aerospace, manufacturing, automotive, and defense industries. These applications allow professional illustrators to create complex graphics for technical illustrations and presentations.

- The technical publishing systems offer a data base management capability, allowing the user to control access to the data base, track drawings in progress, archive drawings, and generate project management and accounting reports.

- Auto-trol provides various interfaces that allow the user to capture technical graphics from engineering CAD systems and publication archives by scanning, and transfer a variety of drawings and technical illustrations--complete with graphics and annotation text--to other publishing devices, including pagination systems, laser printers, phototypesetters, color film recorders, and color hardcopy devices.

For the mechanical design and manufacturing industry, Auto-trol offers programs for developing three-dimensional product models, including wire-frame, surface and solid modeling capabilities; analysis tools for kinematics and finite element modeling; and drawing production. These products are built on the Series 7000 Advanced Graphics Software.

- Auto-trol software provides three-dimensional modeling capabilities that allow users to build a design prototype, check it for structural integrity, prepare all engineering documents necessary to build it, and generate all machine tool controls to fabricate it.

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- The Series 7000 has a built-in programming interface to allow integration with the user's software or with third-party programs.

- Auto-trol also offers ProENGINEER[R] (a registered trademark of Parametric Technology Corporation) for conceptual design and modeling.

Auto-trol offers the Engineering Information Management System (EIMS), a job accounting and file management system for network-wide control and maintenance of CAD/CAM/CAE-based information, which integrates with EMPRESS, Auto-trol's relational data base management system.

A summary of Auto-trol's major graphics and application software products is shown in the exhibit.

In October 1990, Auto-trol announced a joint venture with Bridgeway Corporation (Redmond, WA) to develop KONFIG, a new network configuration management software system. The product combines Auto-trol's strengths in computer-aided graphics and relational data bases and Bridgeway's expertise in computer networking. KONFIG is now in field testing at a number of proprietary sites. The first shipment of the product is scheduled for April or May of this year.

Customer support/maintenance services are provided by Auto-trol as follows:

- Maintenance service is provided under warranties, service contracts, or on a time-and-material basis.

- Service is provided by Auto-trol field engineers from locations across the U.S. and through the company's international subsidiaries and distributors, all of which provide installation, preventive maintenance, repair service, and assistance in solving customer operating problems. In addition, a technical support staff located in Denver is available to assist in servicing customer's systems.

- Telemaintenance, or remote diagnostics, is available on all hardware platforms.

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EXHIBIT

AUTO-TROL SOFTWARE PRODUCTS

Product	Description
BUILDING DESIGN AND FACILITIES SOFTWARE	
- FACILITY LAYOUT/OFFICE	Facility and furniture tracking system for planning, designing, and managing office facilities
- PLAN	Architectural system for floor and ceiling plan generation
- BASE PLAN	Architectural system for floor and ceiling plan generation
- LAYOUT	System for producing furniture and equipment layout drawings for offices
- FACILITY LAYOUT/INDUSTRIAL	Facilities and equipment tracking system for planning, designing, and managing industrial plants
- GENERAL DRAFTING INTERFACE	General drafting package with on-screen user interface
- STEEL-3D	Graphic and design system for 2- and 3-dimensional frame structures
- A-FRAME	Drafting system for framing drawings for structural buildings
- ELECTRICAL	Design and drawing system for light fixtures, circuit wiring, and power and communications centers
- HVAC	Drafting system for creating heating, ventilating, and air conditioning plans and drawings
- ATCOGO	Coordinate geometry system
- VECTORPIPE	Piping model design, modification, and management with relational data base
- RAP-PID	Process and instrument diagram generator
- RAP-EL	Electrical schematic diagram generator
- RAP-ISO	Isometric piping diagram generator
- MOSS	Strings-based, three-dimensional surface modeling system for civil engineering
- CONTROL SCHEMATICS	Electrical relay diagram generator
- DUCTWORK DESIGN	System for design, analysis, and generation of ductwork models
- BASIS	Base map generation and locational conversion system
- ISOGEN	Piping system that descales/dimensions isometric drawings
- FLOWS	Mean Value Analysis (MVA) method for modeling manufacturing or service systems
- KONFIG	Configuration management of complex, multivendor local-area networks (LANs)
- INTELLIGENT P&ID	Specification-driven process and instrument diagrams with relational data base management system
- EMPRESS	Relational data base management system with interface to Auto-trol's graphics system
CORPORATE PUBLISHING SOFTWARE	
- TECH ILLUSTRATOR	Drawing tools for technical illustration for low-cost monochrome workstations
- TECH ILLUSTRATOR+PLUS	Drawing tools for technical illustration, including raster and on-screen digitizing
- TECH IMAGE	Fully integrated raster editor for capturing and editing existing illustration files and digital raster data bases
- Various interfaces	

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EXHIBIT

AUTO-TROL SOFTWARE PRODUCTS
(continued)

Product	Description
MECHANICAL DESIGN AND MANUFACTURING SOFTWARE	
- ProENGINEER	Solid modeler for conceptual design
- FINITE ELEMENT MODELER (FEM)	Node and element generator
- FLAT PATTERN DEVELOPMENT	Interactive construction of a correctly dimensioned flat outline of a 3-dimensional model
- NUMERICAL CONTROL (NC)	Interactive system for 2, 2-1/2, 3, and 5 axis machining that performs automatic tool path generation and tool path editing
- NC PACKAGE	Combination of NC modules
- NC PUNCHING MODULE	Allows users to automatically program tool paths for NC punches
- NC LATHE MODULE	Lathe system
- NC PROFILE/POCKET MODULE	System to produce rough, semi-finish, and finish profile operations for machining
- NC SURFACE MILLING MODULE	Advanced surface milling
- NC EDM MODULE	Two or four axis profile and tilt operation
- NC FLAME CUTTING MODULE	Flame tool path generator
- SERIES 7000 GRAPHICS SOFTWARE	Menu-driven 3-dimensional geometric modeling system
- ANALYSIS	Two- and three-dimensional mechanical property calculator
- SURFACE MODELING	Creates surface models from wireframes
- DIE DESIGN	Interactive system to design piercing, blanking, blending, compound, and progressive dies
- BEZIER MODELING	Bezier curve and surface modeling system
- INTERACTIVE NESTING	Two-dimensional sheet metal nesting program
- APPLICATION INTERFACE	Custom application programming interface
- EAGLE	High-level graphics programming language
- COMPACT II SOURCE GENERATOR	
- APT SOURCE GENERATOR	
- Various machine/controller postprocessors	
TECHNICAL INFORMATION MANAGEMENT (TIM) SOFTWARE	
- SCANNER SUBSYSTEM	Workstation-based engineering drawing and document scanning with raster edit and cleanup capabilities
- COMPOSITE IMAGE	Combines, manages, and edits raster images or combination raster/vector drawings
- PreVIEW	Distribution, viewing, and annotation of drawing files on PCs and workstations
- RASTER CONVERTORS	Complete set of converters for capturing and using common raster formats, including TIFF, GMF, RLC, and CCITT Group 4

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Industry Markets

Auto-trol's customers include petroleum, pharmaceutical, and chemical companies; architectural and engineering firms; construction contractors; aerospace companies; federal, state, and local governments; retail merchandisers; public utilities; and manufacturers of industrial and consumer products.

Revenues from the federal government (primarily the FAA) were $10.5 million (14% of revenue) in fiscal 1989 and $8.4 million (11% of revenue) in fiscal 1988.

Geographic Markets

A three-year financial summary segmented by geographic markets follows:

AUTO-TROL TECHNOLOGY CORPORATION
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/90		9/89		9/88	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$52.5	66%	$51.6	67%	$55.0	70%
Europe	14.1	18%	14.1	18%	11.4	15%
Canada	10.4	13%	8.8	11%	8.1	10%
Other	2.4	3%	2.9	4%	3.7	5%
TOTAL	**$79.4**	**100%**	**$77.4**	**100%**	**$78.2**	**100%**

Auto-trol markets its products directly to end users in the U.S. from 23 sales offices in the U.S. and Canada.

The company markets its products in Europe through four wholly owned subsidiaries located in France, Germany, Sweden, and the U.K.

The company markets its products in Canada through Auto-trol Technology (Canada) Ltd., a wholly owned subsidiary, and in Australia through a company sales office.

Export sales outside Europe, Canada, and Australia are handled by independent distributors and sales agents located in several countries, including Austria, China, Greece, India, Indonesia, Korea, Singapore, Taiwan, and Venezuela.

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AUTO-TROL TECHNOLOGY CORPORATION
12500 North Washington Street
Denver, CO 80233
(303) 452-4919

Howard B. Hillman, Chairman, President and CEO
Public Corporation, OTC
Total Employees: 706
Total Revenue, Fiscal Year End 9/30/88: $78,225,000

The Company

Auto-trol Technology Corporation, incorporated in 1962, has been engaged since 1973 in the development, marketing, and support of computer-aided design, drafting, and computer-aided manufacturing (CAD/CAM) turnkey systems for the engineering, manufacturing, technical publishing, and telecommunications industries.

In May 1987, Auto-trol completed the restructuring of its European operations.

- Prior to May, the company participated in the European market through Italcad, a joint venture 49% owned by Auto-trol and 51% owned by Selenia Industrie Electroniche Associate S.p.A (Selenia), an unaffiliated Italian company.

- Auto-trol exchanged its 49% interest in Italcad for 100% of the assets of subsidiaries in England, Sweden, Germany, and France.

- Selenia granted Auto-trol marketing rights in Europe (excluding Italy). Auto-trol agreed to provide its software technology to Selenia and to provide updates through 1990. As a result of the termination of the joint venture, Auto-trol incurred a liability to Selenia of $756,000.

- Following the restructuring, Selenia now concentrates on the Italian market, while Auto-trol focuses on the balance of Europe.

During 1987, Auto-trol changed its fiscal year end date from December 31 to September 30. For comparison purposes, fiscal 1987 amounts (pro-forma) represent Auto-trol's results for the twelve months ending September 30, 1987.

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Fiscal 1988 revenue reached $78.2 million, an 11% increase over fiscal 1987 (pro-forma) revenue of $70.3 million. Net income for fiscal 1988 was $2.1 million, compared to net losses of $1.8 million for fiscal 1987 (pro-forma), which include charges of $3.3 million in anticipation of the European restructuring which occurred in May 1987. A financial summary follows:

AUTO-TROL TECHNOLOGY CORPORATION
FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM	FYE 9/30/88	Nine Months FYE 9/30/87	FYE 12/31/86	12/31/85	12/31/84
Revenue	$78,225	$53,764	$62,358	$65,360	$68,927
• Percent increase (decrease) from previous year	*	*	(5%)	(5%)	27%
Income (loss) before taxes and extraordinary credit	$2,291	$1,162	$(7,038)	$(10,094)	$2,752
• Percent increase (decrease) from previous year	*	*	30%	(467%)	184%
Net income (loss)	$2,141	$1,162 (a)	$(7,038)	$(11,679)	$2,752
• Percent increase (decrease) from previous year	*	*	40%	(524%)	184%
Earnings (loss) per share	$0.32	$0.17 (a)	$(1.08)	$(2.43)	$0.58
• Percent increase (decrease) from previous year	*	*	56%	(519%)	169%

* *Results not comparable with previous periods.*

(a) *Includes an extraordinary credit of $547,000, or $0.08 per share, resulting from utilization of net operating loss carryforward.*

Revenue increases in 1988 and 1987 were attributed to the consolidation of the company's European subsidiaries as a result of the restructuring previously described, as well as significant increases in international revenues from distributors and Auto-trol's Canadian subsidiary.

Research and development expenditures were approximately $8.2 million (10% of revenue) for fiscal 1988, compared to $6.3 million (12% of revenue) for the nine months ending September 30, 1987, and $9.2 million (15% of revenue) in calendar 1986.

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As of September 30, 1988, Auto-trol had 706 employees. As of May 1989, the company had 764 employees, segmented as follows:

Marketing and sales	342
Customer support	125
Research and development	159
General and administrative	138
	764

Auto-trol's primary competitors both domestically and internationally are Applicon (a subsidiary of Schlumberger, Inc.), Prime, IBM, Intergraph, and McDonnell Douglas.

Key Products and Services

Approximately 68% of Auto-trol's fiscal 1988 revenue was derived from turnkey system sales and 32% from turnkey-related services and parts.

A three-year source of revenue summary follows:

AUTO-TROL TECHNOLOGY CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FYE 9/30/88		Nine Months Ending 9/30/87		FYE 12/31/86	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Sales	$53.2	68%	$35.4	66%	$39.1	63%
Service	25.0	32%	$18.4	34%	$23.3	37%
TOTAL	**$78.2**	**100%**	**$53.8**	**100%**	**$62.4**	**100%**

Auto-trol turnkey systems integrate standard hardware, operating software, proprietary graphics software, and applications software for companies involved in building design, industrial plant design, process plant design, electronic publishing, telecommunications, mechanical design and analysis, and machine tooling.

- Auto-trol systems are used by the architectural and engineering firms and similar departments within large corporations to prepare plans for office buildings, residential complexes, and industrial facilities.

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- Plant design software is used by engineering and construction firms and by petrochemical operating companies to design new plants, laboratories, and offices and to prepare the documentation for plant modifications.

- Auto-trol systems are used by technical publishers to produce illustrations for proposals, presentations, engineering and manufacturing documentation, illustrated parts catalogs, and technical support manuals.

- Auto-trol systems are used by a wide range of manufacturing companies to design and document mechanical parts and products.

- Auto-trol currently has over 700 customers with over 1,800 workstations installed in 18 countries worldwide.

Since 1982, Auto-trol has positioned itself as a supplier of 32-bit engineering workstations with turnkey expertise in system integration within a distributed data processing environment. A heterogeneous local-area network (LAN) is available to provide communication pathways among all hardware platforms. Auto-trol systems are currently available for Apollo, DEC, and Sun Microsystems 32-bit computers.

Hardware components of Auto-trol systems include the following:

- The hardware platforms are based on Apollo, DEC, or Sun systems and can operate either as a standalone system or in a fully-interactive network of autonomous workstations.

- Auto-trol provides interfaces for its systems to various peripheral devices including plotters, digitizers, hard copy units, paper tape reader punches, word processors, pagination systems, phototypesetters, laser printers, scanners, vectorizers, and color film recorders.

- Auto-trol no longer markets or supports its proprietary Advanced Raster Workstations or Advanced Personal Workstations.

Auto-trol systems support Auto-trol Series 5000 Advanced Graphics Software for the architecture/engineering/construction (AEC) and technical publications markets and Auto-trol Series 7000 Advanced Graphics Software for the mechanical design market.

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For the AEC marketplace, Auto-trol offers systems for the design, documentation, and maintenance of both commercial and industrial facilities. These products are built on the Series 5000 Advanced Graphics Software and include products for site engineering, plant engineering and design, piping, and modeling.

- The software allows users to interact with the system by entering commands, graphic positions, dimensions, symbols, and text by use of screen menus, keyboards, mouses, digitizers, joy sticks, and other devices thereby permitting users to rapidly create and revise three-dimensional graphic designs.

- Series 5000 provides an interactive macro language, Quick Actions, and macro programming facility to change an existing menu's layout, create new menus, modify button functionality, or add new capabilities and applications.

- Series 5000 can also directly communicate with external FORTRAN and C design and analysis programs, providing facilities for third-party software integration or access to external data.

- Series 5000 supports the creation of associative data structures that can be accessed and manipulated as independent, discrete objects.

  - Object attributes can be stored and accessed locally or be managed in an adjoining relational data base management system (RDBMS).

  - If the RDBMS system is used, an interactive, integrated subset of the SQL (Structured Query Language) command interface is made available to the graphics user for purposes of object selection, ad hoc attribute querying, Quick Action data input, and report generation.

Auto-trol's graphics software for corporate publishing is used by customers in the aerospace, manufacturing, automotive, and defense industries. These applications allow professional illustrators to create complex graphics for technical illustrations and presentations.

- The technical publishing systems offer a data base management capability, allowing the user to control access to the data base, track drawings in progress, archive drawings, and generate project management and accounting reports.

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- Auto-trol provides various interfaces that allow the user to capture technical graphics from engineering CAD systems and publication archives by scanning, and transfer a variety of drawings and technical illustrations--complete with graphics and annotation text--to other publishing devices, including pagination systems, laser printers, phototypesetters, color film recorders, and color hardcopy devices.

For the mechanical design and manufacturing industry, Auto-trol offers programs for developing three-dimensional product models, including wire-frame, surface and solid modeling capabilities; analysis tools for kinematics and finite element modeling; and drawing production. These products are built on the Series 7000 Advanced Graphics Software.

- Auto-trol software provides three-dimensional modeling capabilities that allow users to build a design prototype, check it for structural integrity, prepare all engineering documents necessary to build it, and generate all machine tool controls to fabricate it.

- The Series 7000 has a built-in programming interface to allow integration with the user's software or with third-party programs.

- Auto-trol also offers ProEngineer (a trademark of Parametric Technologies) for conceptual design and modeling.

Auto-trol offers the Engineering Information Management System (EIMS), a job accounting and file management system for network-wide control and maintenance of CAD/CAM/CAE-based information, which integrates with EMPRESS, Auto-trol's relational data base management system .

A summary of Auto-trol's major graphics and application software products is shown in the exhibit.

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EXHIBIT

AUTO-TROL SOFTWARE PRODUCTS

Product	Description
BUILDING DESIGN AND FACILITES SOFTWARE	
- FACILITY LAYOUT/OFFICE	Facility and furniture tracking system for planning, designing, and managing office facilities.
- PLAN	Architectural system for floor and ceiling plan generation.
- ILLUSTRATOR	Architectural rendering system for the creation of floor plans.
- BASE PLAN	Architectural system for floor and ceiling plan generation.
- LAYOUT	System for producing furniture and equipment layout drawings for offices.
- FACILITY LAYOUT/INDUSTRIAL	Facilities and equipment tracking system for planning, designing, and managing industrial plants.
- BASE DESIGN	General drafting package with on-screen user interface.
- STEEL-3D	Graphic and design system for 2- and 3-dimensional frame structures.
- A-FRAME	Drafting system for framing drawings for structural buildings.
- ELECTRICAL	Design and drawing system for light fixtures, circuit wiring, and power and communications centers.
- HVAC	Drafting system for creating heating, ventilating, and air conditioning plans and drawings.
- ATCOGO	Coordinate geometry system.
- VECTORPIPE	Piping model design, modification, and management with relational data base.
- RAP-PID	Process and instrument diagram generator.
- RAP-EL	Electrical schematic diagram generator.
- RAP-ISO	Isometric piping diagram generator.
- MOSS	Surface modeling design system for civil engineering.
- CONTROL SCHEMATICS	Electrical relay diagram generator.
- DUCTWORK DESIGN	System for design, analysis, and generation of ductwork models.
- PLANT FACILITIES DESIGN	Orthographic 2-dimensional piping drawing generator.
- BASIS	Base map generation and locational conversion system.
- ISOGEN	Piping system that descales/dimensions isometric drawings.
CORPORATE PUBLISHING SOFTWARE	
- TECH ILLUSTRATOR	Drawing tools for technical illustration for low cost monochrome workstations.
- TECH ILLUSTRATOR+PLUS	Drawing tools for technical illustration, including raster and on-screen digitizing.
- GRAPHIC DESIGNER	Presentation graphics software tools.
- Various interfaces	

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EXHIBIT

(continued)

Product	Description
MECHANICAL DESIGN AND MANUFACTURING SOFTWARE	
- PRO/ENGINEER	Solid modeler for conceptual design.
- FINITE ELEMENT MODELER (FEM)	Node and element generator.
- FLAT PATTERN DEVELOPMENT	Interactive construction of a correctly dimensioned flat outline of a 3-dimensional model.
- AUTOMATIC NESTING SYSTEM	Tool for users to nest 2-dimensional parts for flame cutting.
- NUMERICAL CONTROL (NC)	Interactive system for 2,2-1/2, 3, and 5 axis machining that performs automatic tool path generation and tool path editing.
- NC PACKAGE	Combination of NC modules.
- NC PUNCHING MODULE	Two-dimensional machining system.
- NC LATHE MODULE	Lathe system.
- NC PROFILE/POCKET MODULE	System to produce rough, semi-finish, and finish profile operations for machining.
- NC SURFACE MILLING MODULE	Advanced surface milling.
- NC EDM MODULE	Two or four axis profile and tilt operation.
- NC FLAME CUTTING MODULE	Flame tool path generator.
- PROGRESSIVE DIE SYSTEM	Interactive graphics system for tool and die designers and manufacturers.
- NC PUNCHING	Allows users to automatically program tool paths for NC punches.
- SERIES 7000 GRAPHICS SOFTWARE	Menu-driven 3-dimensional geometric modeling system.
- ANALYSIS	Two- and three-dimensional mechanical property calculator.
- SURFACE MODELING	Creates surface models from wireframes.
- FLAT PATTERN DEVELOPMENT PACKAGE	Interactive construction of a correctly dimensioned flat outline of a 3-dimensional model.
- DIE DESIGN	Interactive system to design piercing, blanking, blending, compound, and progressive dies.
- BEZIER MODELING	Bezier curve modeling system.
- INTERACTIVE NESTING	Two-dimensional sheet metal nesting program.
- PDA/PATRAN-G INTERFACE	Translator from Series 7000 geometry to FINITE ELEMENT data.
- APPLICATION INTERFACE	Custom application writer.
- EAGLE	High level graphics programming language.
- COMPACT II SOURCE GENERATOR	
- APT SOURCE GENERATOR	
- Various postprocessors	

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Customer support/maintenance services are provided by Auto-trol as follows:

- Maintenance service is provided under warranties, service contracts, or on a time-and-material basis.
- Service is provided by Auto-trol field engineers from over 40 locations in the U.S. and through the company's international subsidiaries and distributors, all of which provide installation, preventive maintenance, repair service, and assistance in solving customer operating problems. In addition, a technical support staff located in Denver is available to assist in servicing customer's systems.
- Telemaintenance, or remote diagnostics, is available on all hardware platforms.

Industry Markets

Auto-trol's customers include petroleum, pharmaceutical, and chemical companies; architectural and engineering firms; construction contractors; aerospace companies; federal, state, and local governments; retail merchandisers; public utilities; and manufacturers of industrial and consumer products.

Geographic Markets

Approximately 70% of Auto-trol's fiscal 1988 revenue was derived from the U.S. while the remaining 30% was derived from international sources. A three-year financial summary as segmented by geographic markets follows:

AUTO-TROL TECHNOLOGY CORPORATION
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FYE 9/30/88		Nine Months Ending 9/30/87		FYE 12/31/86	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$55.0	70%	$41.6	77%	$52.1	84%
Europe	11.4	15%	$6.4	12%	$2.1	3%
Canada	8.1	10%	$4.7	9%	$6.9	11%
Other	3.7	5%	$1.1	2%	$1.2	2%
TOTAL	**$78.2**	**100%**	**$53.8**	**100%**	**$62.3**	**100%**

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Auto-trol markets its products directly to end users in the U.S. from 25 sales offices.

The company markets its products in Europe through four wholly owned subsidiaries located in France, West Germany, Sweden, and the U.K.

The company markets its products in Canada through Auto-trol Technology (Canada) Ltd., a wholly owned subsidiary, and in Australia through a company sales office.

Export sales outside Europe, Canada, and Australia are handled by independent distributors and sales agents located in countries including Singapore, Taiwan, Korea, Indonesia, India, and the People's Republic of China.

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FINANCIAL UPDATE TO PROFILE DATED OCTOBER 1985

AUTO-TROL TECHNOLOGY
CORPORATION
12500 North Washington Street
Denver, CO 80233
(303) 452-4919

Howard B. Hillman, Chairman and President
Public Corporation, OTC
Total Employees: 672
Total Revenue, Fiscal Year End 12/31/85: $65,360,000

AUTO-TROL
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1985	1984	1983	1982	1981
Revenue	$ 65,360	$ 68,927	$ 54,129	$ 43,990	$ 46,287
. Percent change from previous year	(5%)	27%	23%	(5%)	(9%)
Income (loss) before taxes	$ (10,094)	$ 2,752	$ (3,276)	$ (10,052)	$ (5,629)
. Percent change from previous year	(467%)	184%	67%	(79%)	(194%)
Net income (loss)	$ (11,679)	$ 2,752	$ (3,276)	$ (7,568)	$ (3,272)
. Percent change from previous year	(524%)	184%	57%	(131%)	(186%)
Earnings (loss) per share	$ (2.43)	$ 0.58	$ (0.84)	$ (2.10)	$ (1.04)
. Percent change from previous year	(519%)	169%	60%	(102%)	(182%)

- Auto-trol management attributes revenue declines in 1985 to the softness in domestic orders, increased competition, and an increased proportion of sales from lower priced systems.

  - Net losses were substantially the result of lower revenue, accruals for potential tax liability and related interest, write-offs of $2.3 million associated with the acquisition of Auto-trol Development Partners during 1985, and increased research and development expenditures.

  - Research and development expenditures were approximately $10 million (15% of revenue) in 1985, $8.5 million (12% of revenue) in 1984, and $8.3 million (15% of revenue) in 1983.

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SOURCE OF REVENUE

- One hundred percent of Auto-trol's 1985 revenue was derived from turnkey system sales and maintenance services. A three-year summary of source of revenue from system sales and service follows ($ millions):

ITEM \ FISCAL YEAR	1985		1984		1983	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Sales	$42.0	64%	$50.4	73%	$36.6	68%
Service	23.4	36	18.5	27	17.5	32
Total	$65.4	100%	$68.9	100%	$54.1	100%

- Approximately 80% of Auto-trol's 1985 revenue was derived from clients in the U.S. and 20% of revenue was from export sales, primarily to Canada, Australia, and Europe. A three-year summary of source of revenue follows ($ millions):

	1985	1984	1983
U.S.	$52.5	$61.0	$47.5
Europe	5.7	3.8	3.5
Canada	6.2	2.9	2.6
Other	1.0	1.2	0.5
	$65.4	$68.9	$54.1

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COMPANY PROFILE

AUTO-TROL TECHNOLOGY CORPORATION
12500 North Washington Street
Denver, CO 80233
(303) 452-4919

Howard B. Hillman, Chairman and President
Public Corporation, OTC
Total Employees: 666
Total Revenue, Fiscal Year End 12/31/84: $68,927,000

THE COMPANY

- Auto-trol Technology Corporation, founded in 1962, develops, manufactures, markets, and services turnkey computer-aided design and computer-aided manufacturing (CAD/CAM) systems for the architectural, engineering and construction (AEC), mechanical design and manufacturing, and technical publications industries.

- 1984 revenue reached $68.9 million, a 27% increase over 1983 revenue of $54.1 million. Net income reached $2.8 million, an 184% increase over 1983 net losses of $3.3 million. A five-year financial summary follows:

AUTO-TROL
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1984	1983	1982	1981	1980
Revenue	$ 68,927	$ 54,129	$ 43,990	$ 46,287	$ 50,762
. Percent increase (decrease) from previous year	27%	23%	(5%)	(9%)	51%
Income (loss) before taxes	$ 2,752	$ (3,276)	$ (10,052)	$ (5,629)	$ 5,982
. Percent change from previous year	184%	67%	(79%)	(194%)	7%
Net income (loss)	$ 2,752	$ (3,276)	$ (7,568)	$ (3,272)	$ 3,787
. Percent change from previous year	184%	57%	(131%)	(186%)	10%
Earnings (loss) per share	$ 0.58	$ (0.84)	$ (2.10)	$ (1.04)	$ 1.27
. Percent change from previous year	169%	60%	(102%)	(182%)	(1%)

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- During the past four years Auto-trol has developed new systems that operate on 32-bit computers manufactured by Apollo Computer Inc. and DEC. These systems use new proprietary Auto-trol software, open systems architecture, high performance color raster displays and, in the case of Apollo-based systems, distributed processing and local area network communications.

  - Auto-trol management believes the availability of these products, and particularly the acceptance of the Apollo-based distributed processing, networked system, is primarily responsible for the improvement in revenue in 1983 and 1984 and for profitable operations since the last half of 1983.

  - Auto-trol's product mix changed substantially during the past three years as revenue from sales of systems based on older 16-bit technology declined and was replaced by revenue from the company's newer 32-bit products, which comprised approximately 95% of total system sales in 1984.

- Research and development expenditures were $8.5 million (12% of revenue) in 1984, $8.3 million (15% of revenue) in 1983, and $8.1 million (18% of revenue) in 1982.

- Recent acquisitions made by Auto-trol include the following:

  - In July 1985 Auto-trol announced plans to acquire Auto-trol Development Partners, Ltd., a research and development limited partnership funded in 1983 with $7 million.

    - The partnership has been developing advanced software for the computer-aided design of large process manufacturing plants such as oil refineries and chemical manufacturing facilities.

    - The acquisition, which will probably be finalized in 1985, resulted in a $2.3 million charge against income before taxes for the second quarter of 1985.

  - In April 1985 Auto-trol acquired TRICAD, Inc. of Milpitas (CA) for 250,000 shares of Auto-trol common stock and additional cash or stock payments contingent on future sales of TRICAD products. TRICAD marketed DEC VAX-based CAD systems primarily to the AEC market.

  - On March 11, 1985, Auto-trol exercised an option to acquire the remaining 51% interest in Auto-trol Technology Limited (formerly Canadian Drafting Systems, Ltd.) for $10,200 (Canadian). Auto-trol had acquired 49% of the outstanding stock in 1982 for $8,376 in cash and 20,219 shares of Auto-trol common stock. The company is Auto-trol's Canadian distributor.

- Revenue for the six months ending June 30, 1985 reached $35.3 million, a 6% increase over $33.4 million for the same period in 1984. Net losses were $5.2

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million compared to net income of $1.9 million for the first six months of 1984.

- Auto-trol management attributes net losses primarily to the $2.3 million write-off associated with the acquisition of Auto-trol Development Partners during the second quarter of 1985 and decreased growth in sales reflecting a general slowness of the industry.

- Auto-trol had 666 employees as of December 31, 1984. The company currently has 701 employees.

- Major competitors include Applicon (Schlumberger), Computervision, IBM, Intergraph, and Calma (General Electric).

KEY PRODUCTS AND SERVICES

- One hundred percent of Auto-trol's 1984 revenue was derived from turnkey system sales and maintenance services. A three-year summary of source of revenue from system sales and service follows ($ millions):

FISCAL YEAR / ITEM	1984		1983		1982	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Sales	$50.4	73%	$36.6	68%	$28.7	65%
Service	18.5	27	17.5	32	15.3	35
Total	$68.9	100%	$54.1	100%	$44.0	100%

- Auto-trol turnkey systems integrate hardware, operating software, proprietary graphics software, and applications software for the AEC, mechanical, and technical publications CAD/CAM markets.

  - Auto-trol CAD/CAM systems are used by architectural and engineering firms and similar departments within large corporations to prepare plans for office buildings, residential complexes, and industrial facilities.

  - Plant design software is used by engineering and construction firms and by petrochemical operating companies to design new plants and to prepare the documentation for plant modifications.

  - Auto-trol systems are used by technical publishers to produce illustrations for proposals, presentations, engineering and manufacturing documentation, illustrated parts catalogs, and technical support manuals.

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- Auto-trol CAD/CAM systems are used by a wide range of manufacturing companies to design and document mechanical parts and products.

- Hardware components of Auto-trol systems include the following:

  - The Advanced Graphics Workstation (AGW), introduced in 1982, is based on Apollo 32-bit microcomputers and can operate either as a standalone system or in a fully-interactive network of autonomous workstations.

    - AGW systems support Auto-trol Series 5000 Advanced Graphics Software for the AEC and technical publications markets and Auto-trol Series 7000 Advanced Graphics Software for the mechanical design market.

    - The AGW/32 (based on the Apollo DN 330) provides mid-range computational performance and a monochromatic display in a desktop package. It is a full function, low cost, standalone system for design development.

    - The AGW/52 (based on the Apollo DN 560) includes a color display and mid-range computational power. It is best suited for general design, analysis, and drafting.

    - The AGW/57 (based on Apollo's DSP/90 and Auto-trol's proprietary graphics processor) provides an accelerated graphics display for the creation and manipulation of large drawings and models.

    - The AGW/70 (based on the Apollo DN 660) is a high performance workstation for computer-intensive advanced design and engineering applications.

    - The Apollo-based AGW systems, including graphics software, generally range in price from $32,000 to $93,000. There are currently over 1,200 AGW systems installed.

  - The Advanced Raster Workstation (ARW) operates with DEC Micro VAX II, VAX 11/750 or 11/780, or 8600 computers to provide color raster displays in a shared logic system.

    - ARW systems support Auto-trol Series 5000 and Series 7000 Advanced Graphics Software.

    - The system features high performance graphic design capabilities, together with the analysis and data base management capabilities of VAX computers. Communication interfaces for Auto-trol AGW systems are also available.

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- . There are currently over 75 VAX-based systems installed using Auto-trol workstations and software.

- In July 1985 Auto-trol introduced the Advanced Personal Workstation/15 (APW/15), an IBM PC/AT-based graphics system that provides full function capabilities for design, analysis, documentation, drafting, illustration, and support of general engineering programs.

  - . The APW/15 is a standalone system that uses an additional 32-bit virtual memory graphics processor that will run Auto-trol graphics software, standard PC/DOS, and third-party software for AEC, mechanical, and technical publishing applications.

  - . The APW/15 is fully compatible with Auto-trol's AGW and DEC VAX-based systems.

  - . Shipment of the APW/15 began during the third quarter of 1985. Pricing will range from $20,000 to $29,000.

- Auto-trol provides interfaces for its systems to various peripheral devices including plotters, digitizers, hard copy units, paper tape reader punches, word processors, pagination systems, phototypesetters, laser demand printers, scanners, vectorizers, and color film recorders.

• Graphics and applications software available for Auto-trol turnkey systems for the AEC and technical publications industries includes the following:

- Auto-trol Series 5000 Advanced Graphics Software provides design, drafting, and documentation capabilities for Auto-trol's CAD/CAM systems.

  - . The software allows users to interact with the system by entering commands, graphic positions, dimensions, symbols, and text by use of screen menus, keyboards, mouses, digitizers, thumbwheels, joy sticks, function button panels, and other devices thereby permitting users to rapidly create and revise three-dimensional graphic designs.

  - . Series 5000 data base management features enable the user to generate reports such as bills of material or related component lists.

  - . In 1984 major enhancements to Series 5000 software provided improved editing, selection, visualization, and performance capabilities.

- Specialty application software products available from Auto-trol include the following:

  - . PLAN, an architectural drafting and documentation system.

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- ILLUSTRATOR, an architectural rendering design system for the creation of floor plans.
- LAYOUT, a facilities layout system for space planning and equipment layout.
- STEEL-3D, a graphic design and analysis system for two- and three-dimensional frame structures.
- A-FRAME, a drafting system for framing drawings for structural buildings.
- ELECTRICAL, a design and drafting system for electrical construction documents.
- HVAC, a design and drafting system for heating, ventilating, and air conditioning construction documents.
- AT/COGO, a design tool for the solution of planar geometric problems.
- VECTORPIPE, for piping model design, modification, and management.
- RAP-PID, for process and instrument diagrams.
- RAP-EL, for electrical schematic diagrams.
- RAP-ISO, for isometric piping diagrams.
- MOSS, a surface modeling design system.
- FOUNDATION-3D, a reinforced concrete foundation design system.
- CONTROL SCHEMATICS, for electrical relay diagrams.
- TECH ILLUSTRATOR, a set of drawing tools for illustration.
- PAGE-ONE, an interface for merging graphics and text for technical documentation production.

- Graphics and applications software available for Auto-trol turnkey systems designed for the mechanical design and manufacturing markets includes the following:

  - Auto-trol Series 7000 Advanced Graphics Software permits a user to interactively design a mechanical part and to store a three-dimensional model of the part represented in a data file using a set of mathematically defined surfaces.

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- The three-dimensional model stored in the Series 7000 data base can be viewed and manipulated on the display in any orientation, and multiple views of the model can be displayed at the same time. Portions of the design can be represented in different colors to distinguish elements of the design.

- The software provides interactive menus to facilitate the production of engineering drawings from a graphic design of a part. System 7000 capabilities also include the generation of numerical control paths for machine tools.

- Enhancements added to System 7000 during 1984 include light source shading, hidden line removal, and performance improvements.

- Applications software products available from Auto-trol include the following:

  - SOLIDS MODELING, an integrated constructive solid geometry type solids modeling system.

  - FINITE ELEMENT MODELING (FEM), an interactive system to create nodes and elements and generate an output file to FEM programs.

  - FLAT PATTERN DEVELOPMENT enables users to interactively construct a correctly dimensioned flat outline of a three-dimensional model.

  - AUTOMATIC NESTING SYSTEM, a tool for users to be able to nest two-dimensional parts for flame cutting.

  - NUMERICAL CONTROL (NC), an interactive system for 2, 2-1/2, 3, and 5 axis machining that performs automatic tool path generation and tool path editing.

  - PROGRESSIVE DIE SYSTEM, an interactive graphics system for tool and die designers and manufacturers.

  - NC PUNCHING, a new capability within the NC system that allows users to automatically program tool paths for NC punches.

  - KINEMATICS, an interface to the ADAMS kinematics program.

- Additional software components available from Auto-trol include:

  - The Machine Design and Drafting Symbols package, a library of routines for the creation of various fasteners used in the design and construction of machines.

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- The Keystroke Logging System is a tool for recording a set of graphics commands that can be recalled for later use without reentering the command string.

- Eagle, Auto-trol's PASCAL-like programming language for mechanical design and manufacturing applications.

- Applications interfaces allow FORTRAN applications programs to be integrated into Auto-trol's applications software.

- In April 1985, Auto-trol introduced REDLINER, a software product designed to run on IBM microcomputers that allows Auto-trol customers to view and annotate drawings created on AGWs or DEC VAX-based systems.

  - REDLINER does not make actual changes to an original drawing but displays a copy of the original for annotation or "redlining."

    - REDLINER is priced at $4,000 per VAX CPU or AGW and $1,000 per IBM PC.

- Recent joint marketing agreements announced by Auto-trol include the following:

  - In August 1985 a joint marketing agreement was announced with Interleaf, Inc. for Auto-trol to license, install, and support Interleaf electronic publishing software on Auto-trol graphics workstations.

  - In April 1985 a joint marketing agreement was announced with Amazon Energy Ltd. for Auto-trol to market Amazon's TAS (Thermal Analysis Software) for Advanced building design and energy management software product.

- Auto-trol is currently developing a software product for process plant design using the networking and distributed processing capabilities of AGW to provide a design system for use by large firms engaged in the design, construction, and operation of oil refineries, petrochemical plants, and other similar facilities. The development was previously conducted by Auto-trol Development Partners, Ltd., a partnership acquired by Auto-trol during 1985.

- Customer support/maintenance services are provided by Auto-trol as follows:

  - Customer training classes are available through the company's Denver training facilities and may be arranged at a customer site.

  - Maintenance and repair services are provided under warranties (usually for 90 days after installation), under service contracts (which covered approximately 80% of all installed systems as of December 31, 1984), or on a time and material basis.

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- Service is provided by Auto-trol field engineers from over 43 locations in the U.S. and through international distributors, all of which provide installation, preventive maintenance, repair services, and assistance in solving customer operating problems.

- Telemaintenance services provide analyses of hardware and software problems through remote diagnostic procedures conducted by telephone.

INDUSTRY MARKETS

- Auto-trol customers include petroleum and chemical companies, architectural and engineering firms, construction contractors, retail merchandisers, public utilities, corporate and government publishers, and discrete manufacturers.

GEOGRAPHIC MARKETS

- Approximately 88% of Auto-trol's 1984 revenue was derived from clients in the U.S. and 12% of revenue was from export sales, primarily to Canada, Australia, and Europe. A three-year summary of revenue derived from export sales follows ($ thousands):

	1984	1983	1982
Export sales revenue	$7,904	$6,672	$5,236
. Percent of total revenue	12%	12%	12%

- U.S. offices are located in Atlanta, Lexington (MA), Amherst (NY), Schaumburg (IL), Independence (OH), Dallas, Denver, Troy (MI), Houston, Indianapolis, Columbia (MD), Bloomington (MN), Roseland (NJ), New Orleans, Blue Bell and Pittsburgh (PA), Bellevue (WA), and Irvine and Oakland (CA).

- Foreign offices are located in North Sydney (Australia) and Montreal, Toronto, and Calgary (Canada). Foreign distributors are located in South Africa, Taiwan, India, Israel, and Singapore.

  - European marketing is conducted through Italcad, a 49% owned Italian affiliate.

COMPUTER HARDWARE AND SOFTWARE

- Auto-trol maintains the following computers:

  - Sperry Univac V77-800s, Vortex.
  - DEC VAXs (models 11/780, 750, and 730), VMS.
  - DEC Micro VAX IIs.
  - Apollo DOMAINs, AEGIS.
  - IBM PC/ATs with 32-bit coprocessors.

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FINANCIAL UPDATE TO HIGHLIGHT DATED JULY 1982

AUTO-TROL TECHNOLOGY CORPORATION
12500 North Washington Street
Denver, CO 80233
(303) 452-4919

Howard B. Hillman, Chairman
E. Joseph Zemke, President
Public Corporation, OTC
Total Employees: 564
Total Revenue, Fiscal Year End 12/31/82: $43,990,000

AUTO-TROL
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1982	1981	1980	1979	1978
Revenue	$ 43,990	$ 46,287	$ 50,762	$ 33,540	$ 21,850
. Percent increase (decrease) from previous year	(5%)	(9%)	51%	54%	74%
Income (loss) before taxes	$(10,052)	$ (5,629)	$ 5,982	$ 5,613	$ 3,103
. Percent increase (decrease) from previous year	(79%)	(194%)	7%	81%	88%
Net income (loss)	$ (7,568)	$ (3,272)	$ 3,787	$ 3,438	$ 1,764
. Percent increase (decrease) from previous year	(131%)	(186%)	10%	95%	9%
Earnings (loss) per share	$ (2.10)	$ (1.04)	$ 1.27	$ 1.28	$ 0.82
. Percent increase (decrease) from previous year	(102%)	(182%)	(1%)	56%	6%

SOURCE OF REVENUE

- Approximately 67% of Auto-trol's 1982 revenue was derived from turnkey systems sales, as compared with 75% in 1981 and 84% in 1980. Sales of turnkey-related services and parts contributed 33%, 25%, and 16% of revenue in 1982, 1981, and 1980, respectively.

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COMPANY HIGHLIGHT

Howard Hillman Acting

AUTO-TROL TECHNOLOGY
CORPORATION
12500 North Washington Street
Denver, CO 80233
(303) 452-4919

Graham King, President
Public Corporation, OTC
Total Employees: 539
Total Revenue, Fiscal Year
End 12/31/81: $46,287,000

THE COMPANY

- Auto-trol Technology Corporation was incorporated in Colorado in 1962 to manufacture digitizers. In 1970 computer-aided design and manufacturing (CAD/CAM) turnkey systems were introduced, and have become the company's primary products.

- Auto-trol's 1981 revenue was $46.3 million, a 9% decrease from 1980 revenue of $50.8 million. The company had a net loss of $3.3 million in 1981, as compared with net income of $3.8 million in 1980. A five-year financial summary follows:

AUTO-TROL
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1981	1980	1979	1978	1977
Revenue	$46,287	$50,762	$33,540	$21,850	$12,549
. Percent increase (decrease) from previous year	(9%)	51%	54%	74%	80%
Income (loss) before taxes	$(5,629)	$ 5,982	$ 5,613	$ 3,103	$ 1,648
. Percent increase (decrease) from previous year	(194%)	7%	81%	88%	258%
Net income (loss)	$(3,272)	$ 3,787	$ 3,438	$ 1,764	$ 1,618
. Percent increase (decrease) from previous year	(186%)	10%	95%	9%	252%
Earnings (loss) per share	$ (1.04)	$ 1.27	$ 1.28	$ 0.82	$ 0.77
. Percent increase (decrease) from previous year	(182%)	(1%)	56%	6%	250%

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- Factors contributing to declines in revenue and net income in 1981 include:

  - Large research and development expenditures during 1978-80 which did not yield the expected level of product improvements.

  - Underestimating the cost and competitive obstacles in entering the mechanical design marketplace.

  - Poor sales performance in Europe.

  - The recession in the U.S.

  - Advanced product offerings and aggressive pricing by Auto-trol's competitors.

- To return to profitability in 1981, Auto-trol cut its workforce by 15%, primarily in the manufacturing and administrative areas, and reduced executive salaries. To reduce its costs in the European market, the firm is consolidating operations of its European subsidiaries and discussing partnership with major European companies interested in representing Auto-trol.

- The company spent approximately $8 million, or 17% of its 1981 revenue, on research and development. These expenditures resulted in new and enhanced hardware components, applications programs, and graphics software. Auto-trol expects these new offerings to strengthen its position in the CAD/CAM market and return the company to profitability. In 1982, the company will commit 15% of total revenue to research and development.

- Revenue and net income for the six months ended June 30, 1982 were $22.7 million and $1.2 million, respectively. The company reported revenue of $22.9 million and a net loss of $1.9 million for the same period in 1981.

- On January 21, 1982 Auto-trol acquired 49% of the outstanding capital stock of Canadian Drafting Systems Ltd. (Can-Draft), its Canadian distributor. Auto-trol also has an option to acquire the remaining 51% of stock. Can-Draft, located in Calgary, Alberta, was acquired for cash of $8,376 and 20,219 shares of Auto-trol common stock.

- Auto-trol had 539 employees as of December 31, 1981. The company now has 580 employees, segmented as follows:

Marketing/sales	140
Product development	150
Field service	140
Manufacturing	90
General and administrative	60
	580

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- Major competitors include Applicon, Computervision, IBM, Intergraph, and Calma.

KEY PRODUCTS AND SERVICES

- Approximately 75% of Auto-trol's 1981 revenue was derived from turnkey systems sales, as compared with 84% in 1980. Sales of turnkey-related services and parts contributed 25% and 16% of revenue in 1981 and 1980, respectively.

- Auto-trol manufactures the intelligent terminals, digitizers, and plotters used in its turnkey systems. The company markets three CAD/CAM systems, and has developed 60% to 80% of the software it offers.

- The AD/380, introduced in 1977, is a 16-bit automated design and drafting system for the architecture, engineering, and construction (AEC) market. The AD/380 is based on the Sperry Univac V77 minicomputer, and incorporates GS-1000 software. Also included are Auto-trol's CC-80 intelligent terminal; a choice of digitizers; and pen, electrostatic, or drum plotters.

  - GS-1000 capabilities include:

    - On-line design creation and manipulation.

    - A data base of designs and their components, as well as libraries of commonly used design elements and symbols.

    - Hardcopy output using plotters or printers.

    - Management information reports, cost estimates, schedules, and charts.

    - Optional modules for both cross-industry and industry-specific CAD/CAM applications.

  - The CC-80 workstation's two monochrome CRTs include a 19" or 25" diagonal screen for graphics display, and a separate small screen for alphanumeric display. Up to 9 workstations, functioning locally or remotely, can be accommodated by the AD/380 system.

  - About 400 AD/380 systems have been installed. Prices range from $200,000 to $450,000, with the typical system selling for $350,000. Auto-trol can provide leasing arrangements for its systems through third-party lessors.

  - In early 1982, Auto-trol introduced SPDS, a spatial programming design system for architects and facilities planners used on the AD/380. The system generates relationship charts, bubble and space diagrams, and layout plans which are automatically rearranged to solve space allocation problems.

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- Auto-trol is developing new graphics software for the AEC market that will run on 32-bit minicomputers. Scheduled for introduction in 1982, the new software will run on DEC and Apollo computers. Present AD/380 users will be able to transfer their drawings and data files directly to a 32-bit system running the new software.

- GS-32, introduced in May 1981, is a 32-bit CAD/CAM system for mechanical design and manufacturing applications using DEC VAX-11/780, -11/750, or -11/730 minicomputers and Autotrol's CC-80 or AGW workstations. The software is available with workstations and other peripherals for customers with VAX computers installed.

  - GS-32 software is a 32-bit version of Auto-trol's GS-2000 package, formerly available on the AD/380 system. In 1979, Auto-trol acquired the rights to Manufacturing and Consulting Services, Inc.'s (MCS) AD-2000 product, which was enhanced to create GS-2000. MCS was paid a license fee for each sale involving the software. In January 1981, Auto-trol and MCS negotiated a revised agreement, giving Auto-trol a royalty free perpetual license to AD-2000 software.

  - GS-32 allows users to automate the entire production cycle. After product geometry has been constructed and verified, it can be used to manufacture the product. Bill of material information can be linked with material requirement planning systems, and numerical control programs can be generated. Other features include:

    - A common data base for both graphics and applications, which runs on the same processor.

    - Tutorial language.

    - Capability of accessing any mainframe for increased processing power.

    - Communications network options: local, remote, distributed, ring, or hierarchical.

    - Interface with ANSYS, a widely-used finite element analysis software package, and other FORTRAN-based engineering design packages.

    - Optional software for specific CAD/CAM applications, including finite element analysis and modeling, numerical control, part nesting, and flat pattern development.

  - Over 25 GS-32 turnkey systems have been installed. Prices range from $80,000 to $600,000.

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- In December 1981, Auto-trol and Digital Equipment's Engineering Systems Group entered into a marketing arrangement providing for joint promotion of GS-32 graphics systems and VAX computers.

- In October 1981, the company entered into an exclusive joint development and marketing arrangement with Apollo Computing Inc., of Chelmsford (MA), providing for development of the Apollo 32-bit computer as part of Auto-trol graphics systems.

- Auto-trol's newest product is the Advanced Graphics Workstation (AGW), which is designed for both the AEC and manufacturing markets. AGW can operate as a workstation connected to a host processor, or as a standalone 32-bit CAD/CAM system. Up to 100 AGWs can be interconnected to provide local area networking and distributed processing without experiencing performance degradation as users are added.

  - The system includes an Apollo DOMAIN minicomputer, Auto-trol's GS-32 software, and FORTRAN and PASCAL compilers. Full color or black-and-white display is available. The company's new 32-bit AEC software will also be available on the system.

  - The product is intended to increase Auto-trol's penetration of the growing market for CAD/CAM systems priced under $100,000, and to offer local area and distributed processing capabilities.

  - AGW prices start at under $80,000. Deliveries began in June 1982.

- In addition to its general purpose software systems, Auto-trol offers specialized applications for:

  - Piping layout.
  - Architectural design.
  - Electrical wiring.
  - Electrical control design.
  - Printed circuit design.
  - Facilities management design.
  - Coordinate geometry design.
  - Locational mapping conversion.
  - Base map generator.
  - Exploration base mapping.
  - Process and instrumentation design.
  - Sheet metal unbending.
  - Engineering information management.

- Major product development programs underway include a new high performance color raster workstation, low cost monochrome and color raster workstations, and applications software for both the AEC and manufacturing areas.

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INDUSTRY MARKETS

- Fortune 500 corporations represent Auto-trol's primary market. With the introduction of the Advanced Graphics Workstation, the company is also addressing the needs of smaller companies.

- Industries represented among Auto-trol customers are petroleum and energy; architectural engineering and construction; chemical, civil, electrical, and mechanical engineering; electronics; primary metals and fabricated metal products; industrial machinery; transportation equipment; printing and publishing; and retailing.

GEOGRAPHIC MARKETS

- Approximately 85% of Auto-trol's 1981 revenue was from clients in the U.S. Fifteen percent of revenue was from export sales, primarily to Canada and Europe. A five-year summary of revenue derived from export sales follows ($ thousands):

FISCAL YEAR / ITEM	1981	1980	1979	1978	1977
Export sales revenue	$ 6,743	$ 9,732	$ 7,678	$ 2,496	$ 1,500
. Percent of total revenue	15%	19%	23%	11%	12%

- U.S. offices are located in Atlanta, Londonderry (NH), Schaumberg (IL), Dallas, Denver, Troy (MI), Houston, Irvine (CA), Bloomington (MN), Roseland (NJ), New Orleans, Norwalk (CT), Blue Bell (PA), Pittsburgh, and Tulsa.

- Foreign subsidiaries are located in West Germany, France, Italy, and Canada. Foreign distributors are located in The Netherlands, Norway, England, Israel, India, South Africa, Australia, and Japan.

COMPUTER HARDWARE AND SOFTWARE

- Auto-trol maintains the following equipment:

  - 40 Sperry Univac V77-800s, Vortex.
  - 6 DEC VAXs (models 11/780, 750, and 730), VMS.
  - 32 Apollo DOMAINs, AEGIS.

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COMPANY HIGHLIGHT

AUTO-TROL TECHNOLOGY CORPORATION
12500 North Washington
Denver, CO 80233
(303) 452-4919

Donald E. Smith, President and Chairman of the Board
Public Corporation, OTC
Total Employees: 589
Total Revenues, Fiscal Year End 12/31/79: $33,540,000

THE COMPANY

- Auto-Trol Technology Corporation was incorporated in Colorado in 1962. It is involved solely in the development, manufacture, marketing and maintenance of interactive computer graphics turnkey systems, which are used for computer-aided design and drafting and computer-aided manufacturing (CAD/CAM).

- Auto-Trol's revenues increased 54% from 1978's $21,850,000 to $33,540,000 in 1979. Auto-Trol's management expects 1980 revenues to increase 60%, which would bring its total revenues close to $50 million. A five-year summary of its finances follows:

AUTO-TROL
FIVE-YEAR FINANCIAL SUMMARY
($ THOUSANDS, EXCEPT PER SHARE DATA)

ITEM \ FISCAL YEAR	1979	1978	1977	1976	Eleven Months Ended 12/31 1975
Revenues	$33,540	$21,850	$12,549	$ 6,971	$ 4,835
. Percent increase from previous year	54%	74%	80%	44%	--
Income before income taxes and extraordinary item	$ 5,613	$ 3,103	$ 1,648	$ 460	$ 350
. Percent increase from previous year	81%	88%	258%	31%	--
Net income	$ 3,438	$ 1,764	$ 1,618	$ 460	$ 350
. Percent increase from previous year	95%	9%	252%	31%	--
Net earnings per share	$ 1.28	$ 0.82	$ 0.77	$ 0.22	$ 0.18
. Percent increase from previous year	56%	6%	250%	22%	--

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- Auto-Trol management attributes its 1980 record revenues to a higher volume of shipped automated design and drafting turnkey systems. In addition, the revenue increase is explained by a higher average price charged per system because of more sophisticated subsystems, as well as by an expansion of Auto-Trol's upgrade business.

  - Price increases contributed approximately 5% of Auto-Trol's 1980 revenue growth, while increased customer service revenues contributed approximately 15.5%.

- Service revenues in 1979 accounted for approximately 13% of total revenues, compared with 12% of 1978 revenues. Maintenance and repair of the systems are provided under a service contract to which all customers presently subscribe. Management acknowledges that services will continue to contribute a greater proportion to total revenues as the number of systems expands for which continued maintenance is required.

- As of June 1, 1980 there were 589 Auto-Trol employees, divided as follows:

- Marketing/sales (includes Field Service personnel)	245
- Software services/customer support	170
- Manufacturing	113
- General and administrative	61
	589

- Within the automated design and drafting systems' market, there are five principal competitors: Computervision Corporation, M&S Computing, Inc., Applicon, Inc., Calma, and Gerber Scientific.

  - According to Auto-Trol management, Auto-Trol is distinguishable on the basis of: the versatility and productivity of its systems, reliable maintenance service, and the company's commitment to meeting shipping schedules. Management claims that although price is a competitive factor, the main consideration of its customers is increased productivity.

KEY PRODUCTS AND SERVICES

- Auto-Trol derives one hundred percent of its revenues from the sale and maintenance of turnkey systems for computer-aided design and drafting.

  - An average system with four workstations sells for approximately $380,000. (This price represents an approximate increase of 34% over 1978. The increase is attributable primarily to more complex and expensive workstations.)

  - As of December 31, 1979, 227 systems had been installed for 169 customers.

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- The AD/380^{tm} interactive computer graphics system is Auto-Trol's principal product. It is based on the Sperry Rand V77 800 minicomputer and includes the Auto-Trol designed and manufactured CC-80 intelligent terminal. The AD/380^{tm} system is designed to accommodate up to 12 graphics workstations such as the CC-80.

  - The CC-80 includes an advanced graphics CRT, general-purpose and specialized keyboards and a separate alphanumeric CRT display for system communication with the operator.

  - The CC-80 terminal was first installed at customer locations in May 1979. By December 1979, Auto-Trol had installed 225 CC-80s. There are 405 CC-80s installed to date.

- The AD/380^{tm} system is available with two CAD/CAM software system packages: GS-1000 and GS-2000.

  - GS-1000 is primarily oriented to high-volume, general-purpose design and drafting applications. It provides for the interactive creation and manipulation of designs; maintains a design data base for storage and retrieval of complete designs, parts of designs, and large libraries of commonly used design elements and symbols; and provides hardcopy output of designs and reports on plotters and printers.

  - GS-2000 is a new software package for mechanical design and manufacturing. The major components of GS-2000 were licensed from Manufacturing and Consulting Services, Inc. (MCS) in June 1979. Auto-Trol has enhanced the MCS software in creating GS-2000.

    - Auto-Trol pays a license fee to MCS for each sale of equipment or software that uses GS-2000. Until June 1980, Auto-Trol was the only minicomputer vendor licensed to use the MCS software. Two large-scale computer manufacturers, Control Data Corporation and Digital Equipment Corporation, are licensed to use and market the software with their equipment.

  - In the GS-2000 system, three-dimensional design entities are represented in the data base using mathematically defined surfaces, rather than lines. The data base is associative and allows components of a design to be identified and manipulated as individual entities. It also provides for the association of information such as properties and costs of materials with the design components.

  - AD/380^{tm} can accommodate the simultaneous operation of GS-1000 and GS-2000 on separate data bases in a software system designated GS-3000.

  - In addition to these general-purpose software systems, Auto-Trol offers software for particular CAD/CAM applications: piping layout, architectural design, electrical wiring, printed circuit design and mapping.

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INDUSTRY MARKETS

- Auto-Trol intends to sell its CAD/CAM system to a broad market rather than specialize in any particular industry segment. The company, however, has assigned sales personnel to concentrate in the petrochemical, architectural and retail merchandising industries.

- The following breakdown indicates the percentage of Auto-Trol systems installed in particular industry segments:

- Petroleum and energy-related	21%
- Architectural, engineering and construction	20
- Chemical	11
- Electrical and electronics	10
- Primary metals and fabricated metal products	10
- Industrial machinery	9
- Retail merchandisers	6
- Transportation equipment	5
- Other manufacturers	5
- Miscellaneous	3
	100%

GEOGRAPHIC MARKETS

- In fiscal 1979, 22.9% of Auto-Trol's revenues were derived from export sales. Shown below are Auto-Trol's export revenues since fiscal 1975:

($ THOUSANDS)

	1979	1978	1977	1976	1975
Export sales revenues	$ 7,678	$ 2,496	$ 1,500	$ 630	$ 183
. Percentage of total revenues	22.9%	11.4%	12.0%	9.0%	3.8%

  - Seventy-six percent of fiscal 1979's export sales were to Europe (including the United Kingdom), an additional 15% were to Canada, and the remaining 9% were to Australia and other countries.

- Until mid-1979, all export sales were made through independent distributors. In late 1979, Auto-Trol formed subsidiaries in France, Italy and West Germany to handle sales and service in those and four adjacent countries.

  - Six independent distributors (located in other European countries, Canada, Japan and Australia) sell and service Auto-Trol's products in 18 other countries.

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- Auto-Trol requires each international distributor to purchase an Auto-trol system and to maintain a staff of salespeople, technical specialists and field service engineering personnel.

- Auto-Trol maintains 24 sales offices located in or near major cities of the U.S., which report to seven regional offices.

COMPUTER HARDWARE AND SOFTWARE

- Auto-Trol has 25 of its own systems installed internally for software production and development, engineering research and development, sales demonstrations and drafting.

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FINANCIAL UPDATE TO PROFILE DATED OCTOBER 1985

AUXTON COMPUTER ENTERPRISES, INCORPORATED
851 Trafalgar Court
Maitland, FL 32751
(305) 660-8400

John P. Croxton, Chairman and CEO
Cheryl E. Galloway, President and COO
Public Corporation, OTC
Total Employees: 385 (March 1, 1986)
Total Revenue, Fiscal Year End 12/31/85: $27,859,502
Computer Services Revenue: $27,802,000

AUXCO
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1985	1984	1983	1982	1981
Revenue	$ 27,960	$ 23,960	$ 19,514	$ 12,532	$ 9,662
. Percent increase from previous year	17%	23%	56%	30%	7%
Income before taxes	$ 3,827	$ 3,139	$ 2,719	$ 1,473	$ 465
. Percent increase (decrease) from previous year	22%	15%	85%	217%	(25%)
Net income	$ 2,306	$ 1,519(a)	$ 1,533	$ 790	$ 320
. Percent increase (decrease) from previous year	52%	(1%)	94%	147%	(23%)
Earnings per share (b)	$ 0.40	$ 0.30	$ 0.30	$ 0.16	$ 0.07
. Percent increase (decrease) from previous year	33%	-	88%	129%	(22%)

(a) 1984 net income was reduced by $69,000 ($0.01 per share) due to the cumulative effect of changing the method of recognizing license fees pertaining to proprietary software sales. Prior to 1984, such license fees were recognized in full upon contract signing. Under the new method a portion of the fee is recognized upon contract signing, and the balance is recognized on a straight-line basis over the term of the installation as provided in the contract.

(b) Restated to reflect two three-for-two stock splits during 1982 and a two-for-one stock split in 1983.

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- In 1985 AUXCO spent approximately $550,000 in research and development of new products. In 1983 and 1984, AUXCO did not spend a material amount on product development.

- In conjunction with cellular phone service, AUXCO has recognized the need for the establishment of a clearinghouse service to accommodate cellular roamers throughout North America. A roamer is a cellular subscriber who uses his phone in areas outside his own service area. A clearinghouse would enable the cellular phone companies to offer additional and more efficient services to its subscribers.

  - In December 1985 AUXCO entered into a joint venture agreement with McDonnell Douglas Information Systems Group, CBSI Technologies, Inc., and Cincinnati Bell Information Systems, Inc. to design a clearinghouse system that will provide roamer validation, intercarrier settlement, and electronic data transfer services.

  - In June 1986 the joint venture company was incorporated as Advanced Cellular Technologies, Inc.

- Revenue for the three months ending March 31, 1986 reached $7.7 million, a 19% increase over $6.5 million for the same quarter in 1985. Net income for the period was $633,000 in 1986 compared to $340,000 in 1985, an increase of 86%.

- As of March 1, 1986, AUXCO had approximately 385 employees, segmented as follows:

Marketing	17
Technical	322
Executive and management	13
Administrative and recruiting	15
Secretarial and clerical	18
	385

SOURCE OF REVENUE

- Approximately 65% of AUXCO's 1985 revenue was derived from professional services consulting, 23% from processing services, and 12% from application software products. Less than 1% of 1985 revenue was derived from computer leasing and other sources. A three-year source of revenue summary follows:

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AUXCO
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ thousands)

ITEM / FISCAL YEAR	1985	1984	1983
Professional Services	$ 18,164	$ 17,396	$ 15,824
. Percent increase from previous year	4%	10%	45%
Processing Services	$ 6,303	$ 3,519	$ 1,428
. Percent increase from previous year	79%	146%	398%
Software Products	$ 3,335	$ 2,622	$ 1,509
. Percent increase from previous year	27%	74%	107%
Computer Leasing and Other	$ 58	$ 423	$ 753
. Percent increase (decrease) from previous year	(86%)	(44%)	(8%)
Total	$ 27,860	$ 23,960	$ 19,514

- The majority of AUXCO's revenue is derived from the telecommunications industry. The primary customer for AUXCO's professional services consulting has been AT&T or its subsidiaries and affiliates, which accounted for approximately 42% of 1985 revenue.

NEW PRODUCTS AND SERVICES

- AUXCO is currently developing a software package that will support the administration and operation of private telecommunciations networks. The private network system is targeted to Fortune 500 companies, the military, universities, and any other organizations that use a large number of telephones.

  - AUXCO expects to install the system in beta test sites in January 1987.

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COMPANY PROFILE

AUXTON COMPUTER ENTERPRISES, INCORPORATED
851 Trafalgar Court
Maitland, FL 32751
(305) 660-8400

John P. Croxton, Chairman and CEO
Cheryl E. Galloway, President and COO
Public Corporation, OTC
Total Employees: 360
Total Revenue, Fiscal Year End 12/31/84: $23,960,231
Computer Services Revenue: $23,537,000

THE COMPANY

- Auxton Computer Enterprises, Incorporated (AUXCO), founded in 1969, provides professional services consulting, processing services, and application software products primarily to customers in the telecommunications industry.

- 1984 revenue was nearly $24 million, a 23% increase over 1983 revenue of $19.5 million. Net income was $1.5 million in 1984, about the same as in 1983. A five-year financial summary follows:

AUXCO
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1984	1983	1982	1981	1980
Revenue	$ 23,960	$ 19,514	$ 12,532	$ 9,662	$ 9,041
. Percent increase from previous year	23%	56%	30%	7%	12%
Income before taxes	$ 3,139	$ 2,719	$ 1,473	$ 465	$ 620
. Percent increase (decrease) from previous year	15%	85%	217%	(25%)	(30%)
Net income	$ 1,519(a)	$ 1,533	$ 790	$ 320	$ 413
. Percent increase (decrease) from previous year	(1%)	94%	147%	(23%)	(32%)
Earnings per share (b)	$ 0.30	$ 0.30	$ 0.16	$ 0.07	$ 0.09
. Percent increase (decrease) from previous year	-	88%	129%	(22%)	(31%)

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(a) 1984 net income was reduced by $69,000 ($0.01 per share) due to the cumulative effect of changing the method of recognizing license fees pertaining to proprietary software sales. Prior to 1984, such license fees were recognized in full upon contract signing. Under the new method a portion of the fee is recognized upon contract signing, and the balance is recognized on a straight-line basis over the term of the installation as provided in the contract.

(b) Restated to reflect two three-for-two stock splits during 1982 and a two-for-one stock split in 1983.

- Increases in revenue during the past two years were primarily due to growth in processing and software package areas, reflecting the general development of these areas of the company's business since 1982.

  - The decreased margin on net earnings reflects the change in method of recognizing license fees, increased costs associated with opening two new offices, and the relocation and expansion of the company's headquarters and computer center.

- Revenue for the six months ending June 30, 1985 was $13.6 million, an 18% increase over revenue of $11.6 million for the same period in 1984. Net earnings for the period were $801,000 ($0.16 per share) compared to $788,000 ($0.15 per share) for the previous year.

- As of March 31, 1985, AUXCO had approximately 360 employees, segmented as follows:

Marketing/sales	15
Technical staff	296
General and administrative	49
	360

KEY PRODUCTS AND SERVICES

- Seventy-three percent of AUXCO's 1984 revenue was derived from professional services consulting, 15% from processing services, and 11% from application software. The remaining 1% was derived from the leasing of computer equipment. A three-year financial summary by source of revenue follows ($ thousands):

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ITEM \ FISCAL YEAR	1984	1983	1982
Professional Services	$ 17,396	$ 15,824	$ 10,950
. Percent increase from previous year	10%	45%	27%
Processing Services	$ 3,519	$ 1,428	$ 35
. Percent increase from previous year	146%	398%	94%
Software Products	$ 2,622	$ 1,509	$ 730
. Percent increase from previous year	74%	107%	484%
Computer Leasing and Other	$ 423	$ 753	$ 817
. Percent increase (decrease) from previous year	(44%)	(8%)	(7%)
Total	$ 23,960	$ 19,514	$ 12,532

- AUXCO's consulting services include systems design, analysis, and programming; long-range and capacity planning; feasibility studies; the development of educational courses; technical computer operations support; and data processing management with specialization in CICS, IMS, and telecommunications systems.

  - The company designed and developed The AUXCO Method[T.M.], an organized methodology which AUXCO uses to control system development. The AUXCO Method's Work Planning Structure is composed of Analysis, Design, and Implementation stages and provides an overall perspective as to time, resource requirements, and costs at any point in a system's development.

- AUXCO's telephone industry applications experience can be grouped into the following four general areas:

  - Plant:

    . Cable upkeep administration.
    . Engineering activity tracking.
    . Equipment and facilities planning.
    . Loop maintenance tracking.
    . Ordering and inventory management.
    . Circuit order control.
    . Automatic circuit design.
    . Plug-in inventory management.
    . Automatic plant assignment and inventory.
    . Installation and repair measurement plan.
    . Work force management.

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- Toll:
  - Toll traffic analysis.
  - Traffic routing and forecasting.
  - WATS analysis.
  - Called line reporting.
  - Toll rating.
  - Paystation toll analysis.
- Accounting:
  - Budget preparation and tracking.
  - Financial reporting.
  - Property records management.
  - Stock and bond transfer.
  - Payroll.
  - Functional accounting.
  - General ledger.
  - Pension fund management.
- Commercial:
  - Customer billing and cash management.
  - Service order processing.
  - Direct order entry.
  - Employee equipment inventory.
  - Customer records inquiry.
  - Product activity forecasting.
  - Equipment configuration and ordering aid.

- Examples of specific projects performed by AUXCO include the following:
  - Implementation of an Internal Telephone Billing System which tracks telephone company equipment issued to employees and reports on telephone usage, using a VSAM data base.
  - The coordination, design, analysis, and implementation of a Product System which provides comprehensive reporting on all installation and repair activity within a telephone company by product and craftsperson.
  - Analysis, design, and implementation of a large-scale Stock and Bond System which tracks transfers of securities and provides information to security owners and management.
  - Development and implementation of an Inventory Control System which supports the entire circuit provisioning process, including: circuit order control and design, inventory record maintenance, selection and assignment of inventory components, work order generation, and construction planning and forecasting.

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- AUXCO markets four proprietary software packages designed for use by telephone companies, long distance resellers, paging services, and cellular carriers and agents. The software products operate on IBM 43XX or larger mainframes under MVS and DOS/VSE. License fees for a complete package range from $300,000 to $500,000 for each computer location. Installation and customization are provided at an additional charge varying with work required. Maintenance support is also available for a yearly fee.

  - SOCRATES (Service Order Customer Record and Terminal Entry System) is an on-line, interactive system for building and maintaining a central data base of customer records of service.

    - The system was originally designed by Winter Park Telephone Company of Altamonte Springs (FL) for its own use. In 1979 AUXCO acquired ownership of SOCRATES in an agreement under which AUXCO would develop the LUCAS system (described below), and the telephone company would obtain perpetual license to use, but not market, SOCRATES and LUCAS.

    - SOCRATES automates customer inventory recordkeeping and includes subsystems for on-line service order entry and inquiry, toll rating, customer billing, cash management, centralized toll investigation, paystation management, and trouble reporting.

  - In December 1981, the company introduced LUCAS (Line Utilization Cable Assignment System), an on-line system developed by AUXCO which automates the assignment of plant line equipment and cable facilities. The system maintains a complete inventory of cables and pairs, line equipment, and terminals; provides for automatic reuse of disconnected equipment; and supports repair bureau functions. Assignment of serving facilities can be accomplished automatically during service order processing using LUCAS in conjunction with SOCRATES.

  - In 1983 AUXCO developed and introduced COMPU CELLULAR and COMPU NETWORK. COMPU CELLULAR provides service order processing, bill preparation and processing, and payment processing for the cellular mobile telephone industry. COMPU NETWORK provides the same services for the toll telephone reseller and paging service industries.

- In 1982 AUXCO began offering interactive remote computing services to customers in the telecommunications industry. Customers may use AUXCO's software products, or their own software products, on a timesharing basis at the computer center in Maitland (FL). Applications available on the network include SOCRATES, LUCAS, COMPU CELLULAR, COMPU NETWORK, and the various subsystems (i.e., Customer Billing and Toll Rating).

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INDUSTRY MARKETS

- The majority of AUXCO's revenue is derived from the telecommunications industry. The primary customer for AUXCO's professional services consulting has been AT&T or its subsidiaries and affiliates, which accounted for approximately 54% of 1984 revenue.

- During 1984, services were also provided to the seven regional holding companies created by AT&T's divestiture, independent telephone and telecommunications companies, and non-telecommunications companies in various industries including banking, manufacturing, insurance, utilities, and business services.

GEOGRAPHIC MARKETS

- Approximately 98% of AUXCO's 1984 revenue was derived from the U.S. and 2% from foreign sources.

- AUXCO's consulting services are provided from its principal office in Maitland (FL) and from offices in Edison and Parsippany (NJ), Philadelphia (PA), Rolling Meadows (IL), Silver Spring (MD), and Los Angeles (CA).

- AUXCO has marketing agreements with AT&T and IT&T to market its software products outside of the U.S.

COMPUTER HARDWARE AND SOFTWARE

- AUXCO maintains 1 IBM 4361 and 1 IBM 3083 running under MVS and DOS/VSE at its Maitland headquarters. The system supports CICS, IMS, COBOL, and PL/1. Network access is provided via dedicated lines.

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FINANCIAL UPDATE TO HIGHLIGHT DATED JUNE 1982

AUXTON COMPUTER ENTERPRISES, INC.
200 East Robinson Street
Orlando, FL 32801
(305) 425-3300

John P. Croxton, Chairman
Cheryl Galloway, President
Total Employees: 235
Total Revenue, Fiscal Year End 12/31/82: $12,532,000
Computer Services Revenue: $11,774,000

AUXCO
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	1982	1981	1980	1979	1978
Revenue	$ 12,532	$ 9,662	$ 9,041	$ 8,078	$ 6,335
• Percent increase from previous year	30%	7%	12%	28%	27%
Income before taxes	$ 1,473	$ 465	$ 620	$ 883	$ 583
• Percent increase (decrease) from previous year	217%	(25%)	(30%)	51%	12%
Net income	$ 790	$ 320	$ 413	$ 604	$ 302
• Percent increase (decrease) from previous year	147%	(23%)	(32%)	100%	42%
Earnings per share (a)	$ 0.31	$ 0.13	$ 0.17	$ 0.25	$ 0.15
• Percent increase (decrease) from previous year	138%	(24%)	(32%)	67%	N/A

(a) Restated to reflect two three-for-two stock splits during 1982.

SOURCE OF REVENUE

- Approximately 88% of AUXCO's total 1982 revenue was from professional services, 6% from software products, and 6% from computer leasing.

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COMPANY HIGHLIGHT

AUXTON COMPUTER ENTERPRISES, INC.
201 East Pine Street
Orlando, FL 32801
(305) 425-3300

John P. Croxton, President
Public Corporation, OTC
Total Employees: 184
Total Revenue, Fiscal Year End 12/31/81: $9,661,567
Computer Services Revenue: $8,847,226

THE COMPANY

- Auxton Computer Enterprises, Inc. (AUXCO) was founded in 1969 as a professional services firm. While consulting remains its primary service, AUXCO also leases computer equipment and provides software products and processing services primarily to clients in the telephone industry.

- Revenue increased 7% in 1981 to $9.7 million, from $9 million in 1980. Net income dropped 23% to $320,000 from $413,000 during the same period. A five-year financial summary follows:

AUXCO
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1981	1980	1979	1978	1977
Revenue	$ 9,662	$ 9,041	$ 8,078	$ 6,335	$ 4,992
. Percent increase from previous year	7%	12%	28%	27%	5%
Income before taxes and extraordinary item	$ 465	$ 620	$ 883	$ 583	$ 520
. Percent increase (decrease) from previous year	(25%)	(30%)	51%	12%	12%
Net income	$ 320	$ 413	$ 604	$ 302	$ 212
. Percent increase (decrease) from previous year	(23%)	(32%)	100%	42%	(2%)
Earnings per share	$ 0.29	$ 0.38	$ 0.57	$ 0.34	$ 0.27
. Percent increase (decrease) from previous year	(24%)	(33%)	68%	26%	N/A

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- Increase in revenue during the past two years was due to growth in consulting and computer leasing income in 1981, and increases in leasing and software sales in 1980.
  - Losses in net income and income before taxes in 1981 and 1980 were the result of software product development expenditures of $1 million and $1.2 million, respectively. These expenditures generated $125,000 in 1981 revenue, and $700,000 in 1980 revenue.
- For the three months ended March 31, 1982, AUXCO reported revenue of $2.9 million, income before taxes of $359,001, and net income of $244,001. During the same period in 1981 revenue was $2.1 million, income before taxes $210,596, and net income $141,596.
- Of AUXCO's 184 employees, 159 hold technical/consulting positions, and 25 are management, administrative, sales, and clerical personnel.

KEY PRODUCTS AND SERVICES

- Virtually 100% of AUXCO's 1981 computer services revenue was derived from professional services. Less than 1% of revenue was from software product sales.
  - The company owns IBM and Digital Equipment Corporation computer equipment which it presently leases to two principal customers. Leasing generated 1% of total revenue in 1979, 6% in 1980, and 8% in 1981.
  - A three-year financial summary by product segment is presented below.

FINANCIAL SUMMARY BY PRODUCT SEGMENT
($ thousands)

ITEM \ FISCAL YEAR	1981	1980	1979
Consulting and Software			
. Revenue	$ 8,847	$ 8,518	$ 8,010
. Income before taxes	316	532	885
Computer Leasing			
. Revenue	815	523	68
. Income before taxes	149	88	(2)
Total			
. Revenue	$ 9,662	$ 9,041	$ 8,078
. Income before taxes	465	620	883

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- During 1981, substantially all of AUXCO's revenue was derived from approximately 23 clients. Two of these customers accounted for 67% of total revenue. Four other customers generated about 16% of revenue.

  - The Bell System, which includes American Telephone and Telegraph, Bell Laboratories, and the AT&T Operating Companies, accounted for 50% of revenue. AUXCO has provided services to the Bell System for over five years, under contracts ranging in length from three months to more than one year.

  - American Broadcasting Companies, Inc. accounted for 17% of revenue.

- AUXCO's consulting services include systems design, analysis, and programming; long-range and capacity planning; feasibility studies; development of educational courses; technical computer operations support; data processing management; and specialization in CICS, IMS, and telecommunications systems.

  - The company designed and developed the AUXCO Method, an organized methodology which AUXCO uses to control system development. The Method's Work Planning Structure is composed of Analysis, Design, and Implementation stages and provides an overall perspective as to time, resource requirements, and costs at any point in a system's development.

- AUXCO's applications experience can be grouped into the following four general areas:

  - Plant:

    . Cable upkeep administration.
    . Engineering activity tracking.
    . Equipment and facilities planning.
    . Loop maintenance tracking.
    . Ordering and inventory management.
    . Circuit order control.
    . Automatic circuit design.
    . Plug-in inventory management.
    . Automatic plant assignment and inventory.
    . Installation and repair measurement plan.
    . Work force management.

  - Toll:

    . Toll traffic analysis.
    . Traffic routing and forecasting.
    . WATS analysis.
    . Called line reporting.
    . Toll rating.
    . Paystation toll analysis.

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- Accounting:
  - Budget preparation and tracking.
  - Financial reporting.
  - Property records management.
  - Stock and bond transfer.
  - Payroll.
  - Functional accounting.
  - General ledger.
  - Pension fund management.
- Commercial:
  - Customer billing and cash management.
  - Service order processing.
  - Direct order entry.
  - Employee equipment inventory.
  - Customer records inquiry.
  - Product activity forecasting.
  - Equipment configuration and ordering aid.

- Examples of specific projects performed by AUXCO include the following:
  - Implementation of an Internal Telephone Billing System which tracks telephone company equipment issued to employees and reports on telephone usage, using a VSAM data base.
  - The coordination, design, analysis, and implementation of a Product System which provides comprehensive reporting on all installation and repair activity within a telephone company by product and craftsperson.
  - Analysis, design, and implementation of a large-scale Stock and Bond System which tracks transfers of securities and provides information to security owners and management.
  - Development and implementation of an Inventory Control System which supports the entire circuit provisioning process, including: circuit order control and design, inventory record maintenance, selection and assignment of inventory components, work order generation, and construction planning and forecasting.

- The company markets two software products to the telephone industry. The products run on IBM 370 and 4300 Series equipment under DOS and license for $350,000.
  - In 1979, AUXCO purchased exclusive marketing rights to a package designed by Winter Park Telephone Company of Altamonte Springs (FL). AUXCO modified the system, which is now marketed as SOCRATES (Service Order, Customer Record and Terminal Entry System).

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- SOCRATES automates customer inventory recordkeeping and includes subsystems for on-line service order entry and inquiry, toll rating, customer billing, cash management, centralized toll investigation, paystation management, and trouble reporting. There are two installations of the product.

- In December 1981, the company introduced LUCAS (Line Utilization Cable Assignment System), an on-line system developed by AUXCO which automates the assignment of plant line equipment and cable facilities. The system maintains a complete inventory of cables and pairs, line equipment, and terminals; provides for automatic reuse of disconnected equipment; and supports repair bureau functions. Fifteen comprehensive reports are available. Assignment of serving facilities can be accomplished automatically during service order processing using LUCAS in conjunction with SOCRATES.

- AUXCO began offering interactive remote computing services to independent telephone companies in early 1982. Applications available on the network include SOCRATES, LUCAS, Customer Billing, and Toll Rating.

  - The company plans to develop Trouble Reporting and Tracking, Work Force Management, Warehouse Inventory, and Directory Assistance applications for the network.

INDUSTRY MARKETS

- Approximately 70% of AUXCO's 1981 revenue was derived from the telephone industry, and 17% from the broadcasting industry. The remaining 13% of revenue was primarily from clients in the banking, brokerage, and insurance industries.

GEOGRAPHIC MARKETS

- One hundred percent of AUXCO's revenue is from the U.S., primarily the New York metropolitan area.

- Branch offices are located in Edison and Parsippany, (NJ).

COMPUTER HARDWARE AND SOFTWARE

- AUXCO maintains one IBM 4331 running under MVS and DOS/VSE at its Orlando headquarters. The system supports CICS, IMS, COBOL, and PL/I. Network access is provided via dedicated lines.

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COMPANY HIGHLIGHT

AUXTON COMPUTER ENTERPRISES, INC.
1345 Avenue of the Americas
New York, NY 10019
(212) 489-7620

John P. Croxton, President
Public Corporation, OTC
Total Employees: 180
Total Revenues, Fiscal Year End 12/31/78: $6,335,038

THE COMPANY

- Auxton Computer Enterprises, Inc. (AUXCO) was founded in 1969 as a New Jersey corporation to offer computer consulting services. This activity continues to be its primary business.

- During 1978, substantially all of AUXCO's revenues were derived from approximately 25 clients. Three of those customers accounted for approximately 81% of AUXCO's revenues.

  - The Bell System, including American Telephone and Telegraph, Bell Laboratories and its operating companies accounted for 44% of revenues.
  - Blue Cross/Blue Shield of Greater New York accounted for 19%.
  - Amercian Broadcasting Companies, Inc. accounted for 18% of revenues.

- The following table provides a five year financial summary of Auxton Computer Enterprises:

AUXCO
FIVE YEAR FINANCIAL SUMMARY
($ Thousands, Except Per Share Data)

ITEM / FISCAL YEAR	1978	1977	1976	1975	1974
Revenues	$6,335	$4,992	$4,751	$4,511	$5,124
Income before income taxes and extraordinary item	$ 583	$ 520	$ 463	$ 160	$ 52
Net income	$ 302	$ 212	$ 217	$ 82	$ 30
Per share earnings	$ .35	$ .25	$ .25	$ .10	$ .03

- AUXCO management attributes the increases in 1978 revenues to an increase in its technical billable staff and an increase in billable overtime.

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- Net income in 1977 was approximately 2% less than in 1976. During 1977 AUXCO discontinued the operation of its personnel recruiting division. The loss in net income in 1977 was attributed to the losses incurred by the personnel recruiting division.

- In January 1979 AUXCO discontinued its sales agency for marketing products and services in foreign countries. Revenues derived from the sales agency in 1978 were less than 1% of total company revenues.

- Of AUXCO's 180 employees, 160 are technical and 20 are management, administrative, sales and clerical personnel.

KEY PRODUCTS AND SERVICES

- AUXCO's primary business involves supplying skilled systems analysts and programmers to its clients on a contract basis. Consulting services include data processing management, systems analysis, development of educational courses, design and programming, and the offering of specialized technical computer operations support. In addition, AUXCO specializes in the design of computer systems.

- In March, 1979, AUXCO announced an agreement with the Winter Park Telephone Company in Altamonte Springs, Florida, giving AUXCO exclusive license to market Winter Park's proprietary software system to the telephone industry.

  - The Winter Park software system enables a telephone company to handle customer inquiries and to process service orders on-line via video display terminals connected to a computer.
  - AUXCO management anticipates forming additional joint agreements with companies offering proprietary software for telephone companies.

INDUSTRY MARKETS The three major industries accounting for 81% of AUXCO's revenues, each with one client, include: utilities (44%), insurance (19%), and broadcasting (18%). Other industries served are banking and finance, and manufacturing (primarily pharmaceuticals).

GEOGRAPHIC MARKETS AUXCO's clients are almost exclusively in the New York area.

COMPUTER HARDWARE AUXCO does not have any in-house computer hardware.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

May 1994

Avalon Software, Inc.

Chairman: Kim Sheridan
President & CEO: Gary Gibson
3716 East Columbia
Tucson, AZ 85714-3414
Phone: (602) 790-4214
Fax: (602) 750-0822

Status:	Private
Employees:	190*
Revenue:	$ 20,000,000*
Fiscal Year End:	4/30/94

*Company estimate

Key Points

- Avalon Software is one of the industry's first vendors to deliver a new generation of integrated open-system manufacturing, financial and distribution software applications and the only company shipping these applications with support for ORACLE and SYBASE relational database management systems (RDBMSs).
- The company's revenues have increased dramatically, from about $3 million in fiscal 1991 to an estimated $20 million in fiscal 1994.
- Avalon has complemented its direct sales efforts with a number of international distributors and hardware partners. Its products are now available in 14 languages.
- In February 1992, the company enhanced its management team by bringing on two former Oracle executives with extensive backgrounds in manufacturing software. Gary Gibson was installed as chief executive officer and M.R. Rangaswami as vice president of marketing.

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- Avalon was one of four strategic partners invited to participate in Oracle's June 1992 introduction of its ORACLE7 RDBMS.

Company Description

Avalon Software develops and markets the CIIM™ family of client/server manufacturing distribution and financial applications software for the global enterprise. The company has more than 150 customers and 225 installations worldwide in the discrete, repetitive and hybrid manufacturing industries.

Founded in 1973 by Kim A. Sheridan, the company changed its name from Interactive Information Systems, Inc. in June 1992 to reflect its new vision and product strategy for the 1990s.

Structure and Operations

Avalon is headquartered in Tucson and has North American offices in Atlanta, Boston, Chicago, Cincinnati, Dallas, Lincoln (RI), Los Angeles, Minneapolis, San Francisco and Secacus (NJ).

Outside the U.S., Avalon has offices in Australia, Japan, Singapore, the U.K. and Belgium.

Company Strategy

Avalon Software's mission is to be the leading provider of client/server manufacturing and distribution software solutions for the global enterprise.

Avalon continues to support the latest releases of ORACLE and SYBASE RDBMSs. Because Avalon uses native development tools from Oracle and Sybase to generate separate applications sets, upgrades are usually smooth when either vendor changes their product.

- CIIM 8.6, which shipped in January, supports the ORACLE7 database.

- Support for Sybase's latest database (SYBASE System 10) is expected with the release of CIIM 9.0 later this year. Avalon Software is currently migrating its software from Sybase's APT generator to Sybase's new Momentum line of development tools, most of which are still in beta testing.

Avalon is breaking CIIM's 12 modules into smaller segments so that users will be able to create custom solutions from off-the-shelf software.

Avalon management believes the company can maintain revenue growth of more than 100% per year on the strength of its management, hardware and software partners and increasing market demand for client/server solutions.

Financials

It is estimated Avalon Software's fiscal 1994 revenue will reach $20 million, a 122% increase over fiscal 1993 revenue of $9 million. A four-year financial summary follows:

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Avalon Software, Inc.
Four-Year Revenue Summary
($ Millions)

	Fiscal Year			
Item	4/94	4/93	4/92	4/91
Revenue	$20.0	$9.0	$5.4	$3.2
• Percent increase from previous year	122%	67%	69%	N/A

Market Financials

Avalon targets the Global 500 industrial corporations.

Avalon Software markets its CIIM product to the discrete and process manufacturing industries, including companies in automotive, computer, pharmaceutical, aerospace/defense, electronics, custom job shop, chemical/material, food processing and industrial and farm equipment.

Approximately 30% of revenue comes from discrete manufacturers and 70% from hybrid manufacturers.

Approximately 55% of revenue is derived from software licenses, 15% from software maintenance and 30% from training, consulting, implementation and customization services.

About 60% of sales are related to ORACLE-based products and 40% to SYBASE-based products. Although Avalon has supported the ORACLE RDBMS longer, the SYBASE product is becoming a larger part of the revenue mix due to less competition on the SYBASE platform.

Geographic Markets

Approximately 70% of Avalon Software's fiscal 1994 revenue was derived from the U.S. and 30% from international sources, including Europe, the Asia/Pacific and Latin America.

Employees

Avalon has approximately 195 employees, segmented as follows:

Marketing and sales	37
Customer support	67
Research and development	66
Computer operations	10
General and administrative	15
	195

Key Products and Services

Avalon Software's flagship product, Avalon CIIM, is a fully-integrated family of manufacturing, distribution and financial software applications that supports industry-leading relational databases, open systems and CASE.

CIIM employs the following technologies with its software:

- Relational databases—CIIM is available on ORACLE and on SYBASE relational databases. CIIM is developed in each

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database's native fourth generation programming language to maximize performance and application integration capabilities across the enterprise.

- Open systems—CIIM is widely scalable and can operate on virtually any platform. It can run on the same platforms as ORACLE and SYBASE.

- Client/server architecture—CIIM's client/server architecture delivers economies of computing hardware and improved performance. CIIM (the application) resides on a client (intelligent PC or workstation) while the database resides on a server (workstation, midrange or mainframe).

- CASE—CIIM uses Sybase's Deft CASE tools, enabling users to prototype their application before implementation.

CIIM modules include:

- Inventory Management
- Order Entry
- Configurator
- Purchasing
- Shop Floor Control
- Bill of Material
- Master Scheduling
- Material Requirements Planning
- Capacity Planning
- Accounts Receivable
- Accounts Payable
- General Ledger

CIIM 8.6 for ORACLE, released in January 1994, incorporates new functionality as follows:

- New repetitive manufacturing capabilities to streamline manufacturing processes, including automated vendor releasing, planned order consumption and automated material dispatching

- Enhanced financials for international manufacturers and new invoicing, credit memo and check processing features to simplify accounts payable and receivable.

CIIM 9.0, scheduled for release during the second quarter of 1994 will include the following features:

- Work flow features built into modules to organize various manufacturing tasks and document routing.

- Enhanced modules for purchasing, procurement, accounts payable and receivable.

- Inventory enhancements such as tracking parts by lot number, batch number or other user-defined units.

- Better financial reporting and executive information systems capabilities.

CIIM is currently available in English, Arabic, Chinese, Czechoslovakian, French, German, Hungarian, Italian, Japanese, Korean, Portuguese, Russian, Spanish and Swedish.

Pricing for Avalon CIIM ranges from $25,000 to $750,000, depending on the hardware configuration, number of users and modules.

Support Services:

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Support services include on-site training and consulting for design, implementation and maintenance, integration and customization.

Avalon Software generally relies on third-party consultants to provide systems integration and extended implementation services. These services are billed separately on a time-and-materials basis.

Clients

CIIM clients include Allied Signal, AT&T, AutoLite, Brown & Williamson, Caterpillar, General Dynamics, General Electric, Hoechst-Roussel, IBM (Austin, TX), John Deere & Co., Johnson & Johnson, Kimball International, Motorola, Pepsi Cola, SAAB Scania, TRW Koyo and Volkswagen de Mexico.

Marketing and Sales

Products are sold directly through North American offices in Atlanta, Boston, Chicago, Cincinnati, Dallas, Lincoln (RI), Minneapolis, San Francisco, Secacus and Tucson and international offices in Australia, Japan, Singapore, the U.K. and Belgium.

Products are also sold internationally through more than 24 distributors in Europe, the Asia/Pacific and Latin America.

- Itochu Techno-Science (formerly C. Itoh) markets the Sybase version of CIIM in Japan and NEC is the exclusive marketer of the Oracle version of CIIM in Japan.

- Andersen Consulting distributes CIIM in Taiwan.

Alliances

Avalon Software has strategic alliances with major hardware and software vendors, including Data General, DEC, Hewlett-Packard, IBM, NCR, Sequent, Sun Microsystems, Unisys, Oracle and Sybase.

- Avalon has been a member of Oracle's VAR Program, a component of the Oracle Business Alliance Program, since 1986.

- Avalon is a Data General Independent Software Vendor and has ported its CIIM software for ORACLE to run on Data General's line of RISC-based AViiON servers.

- Avalon is an IBM Industry Application Specialist for the RS/6000.

- Avalon is a Premier Provider for Hewlett-Packard.

Competitors

Major competitors that also offer open systems products include Oracle Systems Corporation and SAP America.

Assessment

Avalon Software has a head start on several other major manufacturing software vendors that still use proprietary operating systems for their products, including Marcam (IBM AS/400) and System Software Associates (IBM AS/400), and relatively little competition in the Sybase market.

The company's strengths include the availability of Sybase and Oracle versions of its product, an expanding international

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market presence, a strong client base and good client references.

Avalon's challenges include maintaining both the Oracle and Sybase versions of its products and managing its rapid growth.

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COMPANY HIGHLIGHT

AVCO COMPUTER SERVICES
201 Lowell Street
Wilmington, MA 01887
(617) 729-7700

Richard E. Bibaud, Vice President
and General Manager
Business Unit of AVCO Corporation
Total Employees: 195
Total Revenue, Fiscal Year
End 11/30/81: $12,800,000
Non-Captive Revenue: $7,800,000

THE COMPANY

- Established in 1958 by AVCO Corporation, AVCO Computer Services derives most of its non-captive revenue from remote computing processing services. Facilities management is a major contributor to revenue as well.

- Total fiscal 1981 revenue was $12.8 million, a 58% increase over 1980 revenue of $8.1 million. 1981 non-captive revenue was $7.8 million, a 70% increase over 1980. A five-year financial summary follows:

AVCO
FIVE-YEAR FINANCIAL SUMMARY
($ thousands)

ITEM / FISCAL YEAR	11/81	11/80	11/79	11/78	11/77
Total Revenue	$12,800	$ 8,100	$ 5,100	$ 5,000	$ 4,100
. Percent increase from previous year	58%	59%	2%	22%	32%
Non-Captive Revenue	$ 7,800	$ 4,600	$ 3,800	$ 3,600	$ 2,700
. Percent increase from previous year	70%	21%	6%	33%	50%
. Percent of total business	61%	57%	75%	72%	66%

- Revenue growth for fiscal 1980 and 1981 was stronger than in previous years due to the capture of major new accounts in late 1980 and early 1981.

- Management expects 1982 revenue to increase by 50% over 1981.

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- AVCO's 195 employees are functionally divided as follows:

Marketing/sales	12
Software services/customer support	100
Computer operations	70
General and administrative	13
	195

- Major competitors include Boeing Computer Services, GEISCO, and MCAUTO.

KEY PRODUCTS AND SERVICES

- Processing services accounted for 97% of AVCO's fiscal 1981 non-captive revenue. Professional services accounted for 3%.

  - Seventy-five percent of AVCO's processing revenue was derived from selling utility computer time, providing computer graphics services, and from software applications offered on its network. Of this, 50% is remote batch, 40% interactive, and 10% batch processing.

  - Facilities management has become a major segment of the company's business, contributing 25% of non-captive revenues ($1.95 million) in 1981. In 1979, facilities management contributed only 1%.

- On its network, AVCO offers a variety of applications and systems software for general business and scientific use. Functions include data base management, statistical analysis, financial modeling and computer graphics, as well as language compilers and software development aids. Most products were developed by third parties.

  - The company supports many of these products with training workshops, a hotline service, consulting, and documentation.

  - AVCO has about 500 clients on its network. Average monthly expenditure per client is about $3,000.

  - A profile of applications available on AVCO's network is presented in the exhibit.

- Facilities management is offered at AVCO's computer center, or at the client's site. Most of the company's facilities management clients are served by dedicated systems at AVCO's center. Contracts include:

  - For a software development firm, AVCO has installed the firm's hardware at the AVCO data center, and assumes all responsibility for its operation and technical management. The client's development staff remotely access the computer.

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EXHIBIT

AVCO COMPUTER SERVICES NETWORK PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
• OPERATING ENVIRONMENT – IBM 3033-AP, MVS/SP • PROGRAMMING LANGUAGES – COBOL – FORTRAN – PL/1 – ASSEMBLER – PASCAL – VS BASIC (TSO) – RPG II – ACCOLADE • DATA MANAGEMENT/TELECOMMUNICATIONS – IDMS – IDMS/DC – RAMIS II – INTELLECT – TSO/SPF – CICS – EASYTRIEVE – CULPRIT – INTERACT • ENGINEERING/SCIENTIFIC – MSC/NASTRAN – PSDI/STRUDL – ICES – HEC2 – ECAP – APT – PROJECT/2 – SUPER-SCEPTRE – PMSIV/EZPERT/CPED	• SIMULATION MODELING/ELECTRONIC FORECASTING – SAS – SAS/ETS – SAS/FSP – SAS/GRAPH – BMD – BMDP – GPSS V – CSMP – DATA TEXT – DYNAMO – JENPLAN – EZGRAFICS – SIMPLAN • GRAPHICS – DISSPLA – CALCOMP ROUTINES – APPLICON GRAPHICS – TEKTRONIX PLOT 10 ROUTINES – PMSIV/EZPERT – EZGRAF – SAS GRAPH – GDDM – EZGRAFICS • ACCOUNTING – GENERAL LEDGER – ACCOUNTS PAYABLE – ACCOUNTS RECEIVABLE – FIXED ASSETS ACCOUNTING • OTHER APPLICATIONS – PANVALET – ACF 2 – LIBRARIAN – SCRIPT – SYNCSORT – SPEAKEASY – TLMS

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- For a nationwide insurance industry service company, AVCO provides facilities management services as well as a private telecommunications network.

- AVCO is the facilities manager, and operates the PRESTEL World Videotext Service, for British Videotex and Teletext.

- Professional services include contract programming, management consulting, systems consulting, and systems design. Currently, AVCO has 10 professional services clients.

INDUSTRY MARKETS

- A breakdown of revenue by industry is as follows:

Manufacturing	20%
Banking and finance (mostly commercial institutions)	24
Insurance	8
Software services firms	15
Services (architects, engineers, CPAs)	15
Federal Government	3
State and local government	10
Utilities	2
Medical/hospital (including medical research)	2
Distribution	1
	100%

GEOGRAPHIC MARKETS

U.S.	99%
New England (90%)	
Northeast (3%)	
Northwest (3%)	
West (1%)	
Southeast (1%)	
Central (1%)	
International (United Kingdom)	1
	100%

- The company recently opened a branch office in New York City to supplement its office in Wilmington (MA).

COMPUTER HARDWARE AND SOFTWARE

- At its data center in Wilmington, AVCO operates two IBM 3033-APs running under MVS. CICS and IBMS/DC teleprocessing software is used.

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Revenues are different than reported previous highlights due to a change in accounting methods which was implemented late '78 or early '79

COMPANY HIGHLIGHT

AVCO COMPUTER SERVICES
201 Lowell Street
Wilmington, MA 01887
(617) 729-7700

Richard E. Bibaud, Vice President
Wholly Owned Subsidiary of AVCO Corporation
Total Employees: 100
Total Revenues, Fiscal Year End 11/30/79: $5,100,000
Non-captive Revenues: $3,800,000

THE COMPANY

- Established in 1958 by its parent, AVCO Corporation, AVCO Computer Services (ACS) derives the majority of its non-captive revenues from selling bulk computer time to users who develop their own applications.

- Total ACS revenues were $5.1 million in 1979. Of that, $3.8 million was non-captive business. Total 1979 revenues rose 2% from 1978's $5.0 million, whereas non-captive revenues increased 6% from $3.6 million in 1978. A five-year summary of revenues follows:

ACS
FIVE-YEAR REVENUE SUMMARY
($ THOUSANDS)

ITEM / FISCAL YEAR	1979	1978	1977	1976	1975
Total revenues	$5,100	$5,000	$4,100	$3,100	$2,600
. Percent increase from previous year	2%	22%	32%	19%	10%
Non-captive revenues	$3,800	$3,600	$2,700	$1,800	$1,300
. Percent increase from previous year	6%	33%	50%	38%	30%
. Percent of total business	75%	72%	66%	58%	50%

- ACS' 1979 revenue growth was weaker than previous years due to the loss of a major contract which had accounted for 35-40% of total revenues.

  - ACS management reports that 1980 revenues are expected to increase 70-80% over 1979. The company has replaced the lost contract with smaller contracts that have served to broaden its base of business.

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Additionally, its captive business is expected to increase due to government contracts won by the parent corporation.

- The company intends to expand the software products offered on its network as well as increase the marketing of its network services in order to realize future revenue growth.

- The 100 ACS employees are functionally divided as follows:

- Marketing/sales	10
- Software services/customer support	39
- Computer operations	45
- General and administrative	6
Total	100

KEY PRODUCTS AND SERVICES

- Eighty-eight percent of ACS's 1979 non-captive revenues stemmed from processing services and 12% from professional services, primarily custom programming.

  - Seventy-five percent of the ACS processing revenues were derived from selling utility computer time. The remaining 25% of processing revenues stemmed from the use of applications offered on the ACS network.

- ACS has a client base of approximately 500 users. Fifty percent of its processing is remote batch, 16% is interactive, 18% is local batch, 3% involves digital graphics, and 1% of revenues is derived from facilities management.

  - A profile of applications available on ACS's network is presented in Exhibit A.

  - In an attempt to expand network applications, ACS management has targeted financial planning and modeling, project management, and data base services as areas of specialization.

- At present, ACS has two facilities management contracts with commercial clients. Each contract is a multi-year venture.

INDUSTRY MARKETS The breakdown of ACS's revenues by industry is as follows:

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EXHIBIT A
ACS
NETWORK PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
• OPERATING ENVIRONMENT – IBM 3033, MVS/JES 2 • PROGRAMMING LANGUAGES SUPPORTED – COBOL – FORTRAN – PL/1 – ASSEMBLER – VS BASIC (TSO) • DATA MANAGEMENT SOFTWARE – MARK IV – IDMS – IDMS/DC – EASYTRIEVE • ENGINEERING/SCIENTIFIC – HEC 2 – ICES – MSC/NASTRAN – ECAP – APT	• SIMULATION MODELING/ECONOMIC FORECASTING – SIMPLAN – DYNAMO – SAS – SPSS – BMD – BMDP – GPSS V – CSMP – DATATEXT – CPED • GRAPHICS – DISSPLA – CALCOMP ROUTINES – TEKTRONIX PLOT 10 ROUTINES – PMS IV/EZPERT • MISCELLANEOUS – SPEAKEASY – SCRIPT – PANVALET – SYNC SORT – LIBRARIAN

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Manufacturing	21%
Utilities	10
Distribution	5
Banking/finance	11
Medical/hospital	18
Government	8
Consulting	27
	100%

GEOGRAPHIC MARKETS One hundred percent of ACS's external business is derived from the U.S., distributed as follows:

New England	74%
Northeast	10
Southeast	2
North Central	4
Midwest	6
West	4
	100%

COMPUTER HARDWARE AND SOFTWARE

- ACS uses an IBM 3033 running under MVS to provide its services.
- The company's network is composed of a variety of high-speed, binary synchronous leased and dial-up lines.
  - Nationwide, in-bound, high-speed WATS service is also available.
  - Low-speed asynchronous service is available on leased and dial-up lines and also via the GTE Telenet network.

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COMPANY HIGHLIGHT

AVCO COMPUTER SERVICES
201 Lowell Street
Wilmington, MA 01887
(617) 729-7700

Richard E. Bibaud, Director
Wholly-owned subsidiary of AVCO Corporation
Total employees: 100
Total revenues fiscal year end 11/30/78: $6,500,000
Non-captive revenues, 11/30/78: $4,500,000

THE COMPANY

- In 1958, AVCO Corporation started AVCO Computer Services (ACS) as part of its Systems Division to handle internal data processing needs. ACS also sold excess machine time to external users. In 1974, 45% of ACS computer time was sold to external users. By 1978, approximately 70% was for external use.

- Revenues have increased at an average annual rate of 9% over the last two years, from $5.5 million in fiscal 1976 to a projected $6.5 million in fiscal 1978. Non-captive revenues during the same period have grown nearly 14% annually from $3.5 million to $4.5 million.

- ACS specializes in selling raw computer time and providing application services to external users on large-scale IBM mainframes. Approximately 85% of its external users provide their own applications software.

  - ACS is currently shifting its emphasis from raw time sales by developing additional general business applications software for use over its network. ACS is emphasizing a new service offering based upon the SIMPLAN financial planning and modeling system.
  - It is also taking advantage of the growing number of minicomputer installations by encouraging clients installing in-house minicomputers to link them to ACS's telecommunications network. This arrangement allows users to place overflow and special applications work on the ACS system.

KEY PRODUCTS AND SERVICES

- ACS provides batch, remote computing, and software services to about 300 external clients in seven industries, primarily manufacturing. The majority of its revenues are generated by remote computing services, as shown below:

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ACS SERVICE	NUMBER OF USERS FY 1978	PERCENT OF NON-CAPTIVE REVENUES FY 1978	APPLICATIONS FY 1978
Remote Batch and Interactive Remote Computing	200+	86%	Business, Engr. & Scientific Statistical File Management via Informatics MARK IV
Local Batch	50	10%	Business, Engr. & Scientific Statistical
Software Services	20	3%	System Design and Programming
Digital Graphics	30	1%	Graphic Output from Digital Input
TOTAL	300+	100%	

- Data entry materials, primarily provided by ACS users, are punched cards, tapes, or disks.

- ACS offers users access to the following languages and software through its batch and interactive remote computing services:

  - ANS Cobol
  - Cobol Interactive Debug (TSO)
  - Cobol Prompter (TSO)
  - Cobol Reformatter
  - Fortran H
  - Fortran G I
  - Fortran Interactive Debug (TSO)
  - PL I-F
  - PL I Optimizing Compiler
  - RPG II
  - VS Basic (TSO)
  - Speakeasy
  - Script
  - Mark IV
  - Simplan
  - Panvalet
  - Syncsort

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- BMDP
- MPSX
- GPSSV
- CSMP
- ECAP
- ICES
- APT
- IMS/VS
- DISSPLA Graphics Software
- Calcomp Routines
- Tektronix Plot 10 Routines

APPLICATIONS

- The majority of ACS non-captive processing services are utility services, as shown below:

Utility (raw time)	85%
General Business	10
Engineering and Scientific	5
	100%

- ACS also offers Informatics Mark IV software with its remote batch services and the SIMPLAN financial planning and modeling system on its timesharing network.

INDUSTRY MARKETS The majority of ACS's non-captive revenues are derived from the manufacturing industry, as shown below:

Manufacturing	54%
Utilities	8
Distribution	4
Banking/finance	12
Medical/hospital	1
Government	6
Consulting	15
	100%

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GEOGRAPHIC MARKETS ACS's external revenues are primarily derived from the New England states, as shown below:

New England	61%
Northeast	20
Southeast	3
North Central	2
Midwest	8
West	6
	100%

COMPUTER HARDWARE AND SOFTWARE

- ACS uses 4 IBM System/370 Model 158 CPUs running under MVS/JES2 to provide its services.

- The company's network is composed of a variety of high speed binary synchronous leased and dial-up lines operating at 19200, 9600, 4800, 2400, and 2000 bits per second.

  - Nationwide in-bound high speed WATS service is also available at 4800 bps.
  - Low speed asynchronous service is available on leased and dial-up lines operating at speeds ranging from 1200 through 110 bps. ACS also offers low speed service via the Telenet public packet-switched data communications network.
  - All cities in the continental U.S. are served by ACS' high and low speed communications network.

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COMPANY HIGHLIGHT

AVCO COMPUTER SERVICES
201 Lowell Street
Wilmington, Massachusetts 01887
(617) 657-5111

Richard E. Bibaud, Director
Wholly owned subsidiary of AVCO Corporation
Computer services employees: 80
Revenues, fiscal year end 11/76:
$3.5 million non-captive, $5.5 million total

COMPANY BACKGROUND:

- In 1958, AVCO Corporation started AVCO Computer Services (ACS) as part of its Systems Division to handle internal data processing needs. ACS also sold excess machine time to external users.

- By 1974, 45% of ACS computer time was sold to external users. In 1976, 64% was for external use.

OVERALL ASSESSMENT:

- ACS specializes in selling raw computer time and providing services to external users with large IBM mainframes. Eighty-five percent of its external users provide their own applications software.

- ACS is taking advantage of the growing number of minicomputer installations by encouraging clients installing in-house minicomputers to link them to ACS's timesharing service. This arrangement allows users to place overflow and special applications work on the ACS network.

- ACS is currently shifting its emphasis from raw time sales by developing additional general business applications software for use over its network. ACS has been slow to develop a full range of timesharing software packages. Parent company losses in 1973 and 1974 may have been partially responsible for this. However, the recent turnaround in AVCO Corporation profitability has matched an expansion in ACS software package research and development activity.

- In contrast to its parent, ACS external user revenues have doubled since 1974. The computer service revenue is vulnerable since 60% is generated by 2% of ACS customers.

COMPANY HIGHLIGHT/AVCO COMPUTER SERVICES

KEY PRODUCTS AND SERVICES:

- ACS provides local and remote batch, timesharing, and software services to about 300 external clients in seven industries, primarily manufacturing.

ACS SERVICES TO USERS

ITEM / SERVICE	NUMBER OF USERS	PERCENT OF TOTAL REVENUES	APPLICATIONS	non-captive
Remote Batch and Timesharing	200+	53%	Business, Engr. & Scientific Statistical File Management via Informatics MARK IV.	83
Captive	AVCO Corporation and Subsidiaries	37%	Various	10
Local Batch	50	6%	Business, Engr. & Scientific Statistical	10
Software Services	20	3%	System Design and Programming	5
Digital Graphics	30	1%	Graphic Output from Digital Input	2

- Data entry materials are primarily provided by ACS users which supply ACS with punched cards, tapes or discs.

APPLICATIONS:

- The majority of ACS merchant user applications are general business as shown below:

General Business	55%
Engineering & Scientific	35%
Data Base	10%

- ACS also offers Informatics Mark IV software with its remote batch services.

INDUSTRY MARKETS: The majority of ACS's merchant market revenues are derived from the manufacturing industry, as shown below:

Manufacturing	60%
Utilities	7%
Distribution	3%
Banking/finance	10%
Medical/hospital	1%
Government	7%
Consulting	12%

GEOGRAPHIC MARKETS: ACS's primary external revenue sources are the New England states, as shown below:

New England	70%
Northeast	10%
Southeast	4%
North Central	2%
Midwest	8%
West	6%

W. Douglas Fisher VP
Dear Doug

Dropped

COMPANY HIGHLIGHT

AZTECH CORPORATION
1621 Connecticut Avenue NW
Washington, D.C. 20009
(202) 265-2850

John W. Rollins, Jr., President
Private corporation
Total employees: 35
Total revenues, fiscal year end
12/31/77: $1,300,000

THE COMPANY

- Aztech Corporation was founded in 1968 as a Delaware partnership to provide non-specialized data processing services. It was incorporated in Delaware in 1969.

  - In 1970, John W. Rollins, Jr. and W. Douglas Fisher (Vice President) recapitalized the company, acquired the name and two clients, and formed a specialized data processing organization.

  - Management claims recapitalization was followed quickly by net profit. Profitability has continued since 1970.

- Aztech now performs data processing for membership associations (trade, professional, and fund raising). Although it will expand where profitable, management's objective is to maintain a specialty in the Washington, D.C., association market.

- Revenues increased approximately 18% from $1.1 million in fiscal 1976 to $1.3 million in fiscal 1977.

- New users are acquired by referral. According to management, 98% of the company's contracts have been renewed to date. There is no marketing staff; programmers, analysts, and senior officers provide marketing support.

- Aztech claims error rates of less than 1% and guarantees replacement - at no expense to the customer - of any computer output that doesn't meet customer specifications.

- American Management Systems, numerous service bureaus, and in-house small business systems are Aztech's major competitors.

KEY PRODUCTS AND SERVICES

- Aztech performs financial, statistical, and membership data processing for its approximately 120 association clients.

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- The company provides interactive remote computing and batch processing.
  - Services include list management, billing, computer output to microfilm, insurance administration, personalized computer letters, photocomposition of membership directories, general ledger, accounts receivable, and statistical reports.
  - Remote computing was introduced in 1977. It allows users to access their proprietary transaction files on-line. Aztech provides the terminals.
  - Data preparation, keypunch, and mailgrams are available only in conjunction with other services.
  - Aztech offers package services as well as customized systems.

APPLICATIONS Aztech offers general business applications processing for membership organizations and associations. Utility services (keypunch) are available only in conjunction with other services.

INDUSTRY MARKETS

- The majority of its clients are trade associations and professional societies. Others include fund raising organizations.
- New users will be membership associations and organizations that convert from manual to automated systems.

GEOGRAPHIC MARKETS Ninety-nine percent of Aztech's clients are in the Washington, D.C., area. New users will also be located in this area.

COMPUTER HARDWARE AND SOFTWARE

- Aztech owns an IBM System/360 Model 40 running under DOS. It leases a key-to-disk system with eight in-house CRTs and a dozen remote on-line terminals located in various client offices.

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Doug Fisher, VP

COMPANY HIGHLIGHT

AZTECH CORPORATION
1621 Connecticut Ave. NW
Washington, D.C. 20009
(202) 265-2850

John W. Rollins Jr., President
Private corporation
Total employees: 30
Total revenues, fiscal year end 12/31/76: $1.1 million

THE COMPANY

- Aztech Corporation was created in 1968 as a Delaware partnership to provide non-specialized data processing services. It was incorporated in Delaware in 1969.
- In 1970 John W. Rollins, Jr. and W. Douglas Fisher (Vice President) recapitalized the company, acquired the name and two clients, and formed a specialized data processing organization. Recapitalization was quickly followed by net profit. Profitability has continued since 1970.
- Aztech now performs data processing for membership associations (trade, professional, and fund raising). Although it will expand where profitable, management's objective is to maintain a specialty in the Washington, D.C. association market.
- There is no marketing staff. New users are acquired by referral. To date, 98% of existing contracts have been renewed. Programmers, analysts, and senior officers provide marketing support.
- Aztech claims error rates of less than 1% and guarantees replacement -at no expense to the customer- of any computer output which doesn't meet customer specifications.
- American Management Systems numerous service bureaus and inhouse small business systems are Aztech's major competitors. Two clients were lost to IBM Systems 3 and 32 last year. Aztech is competing with remote data entry terminals.

KEY PRODUCTS AND SERVICES

- Aztech performs financial, statistical and membership data processing for its approximately 100 association clients.
- The company provides local batch processing only.

- Services include list management, billing, computer output to microfilm, insurance administration, personalized computer letters, photo composition of membership directories, general ledger, accounts receivable, and statistical reports.

- All are customized to client needs
- Data preparation and mailgrams are available in conjunction with other services.
- Online key-to-disc data entry was introduced in 1976. Processing is still local batch.

APPLICATIONS Aztech offers only general business applications processing for membership organizations and associations.

INDUSTRY MARKETS

- The majority of its clients are trade associations and professional societies. Others include fund raising organizations.

- New users will be non-computerized membership associations and organizations.

GEOGRAPHIC MARKETS Ninety-nine percent of Aztech's clients are in the Washington, D.C. area. New users will also be located in this area.

COMPUTER HARDWARE AND SOFTWARE

- Aztech owns an IBM 360/40 (using DOS) and supporting peripheral equipments. It leases a key to disk system with eight in-house CRTs.